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Municipal Register ...

Putnam (Conn, Hartford (Conn.)

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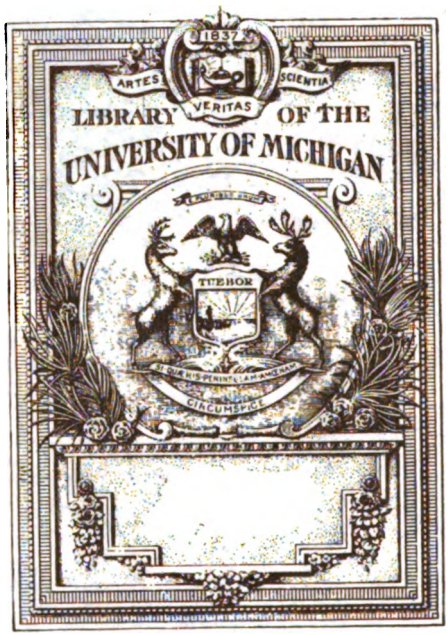
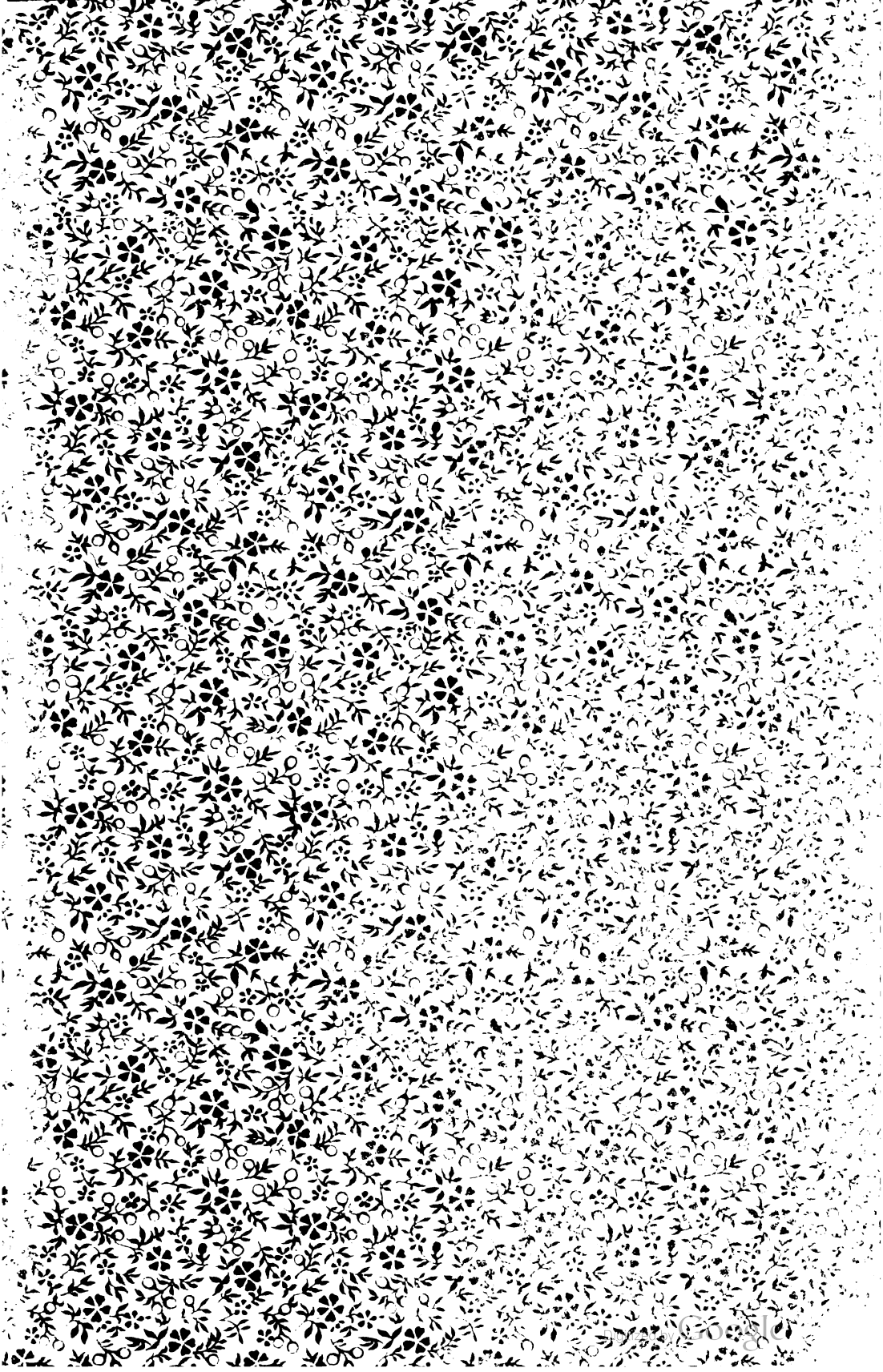


THE GIFT OF
Municipal Government



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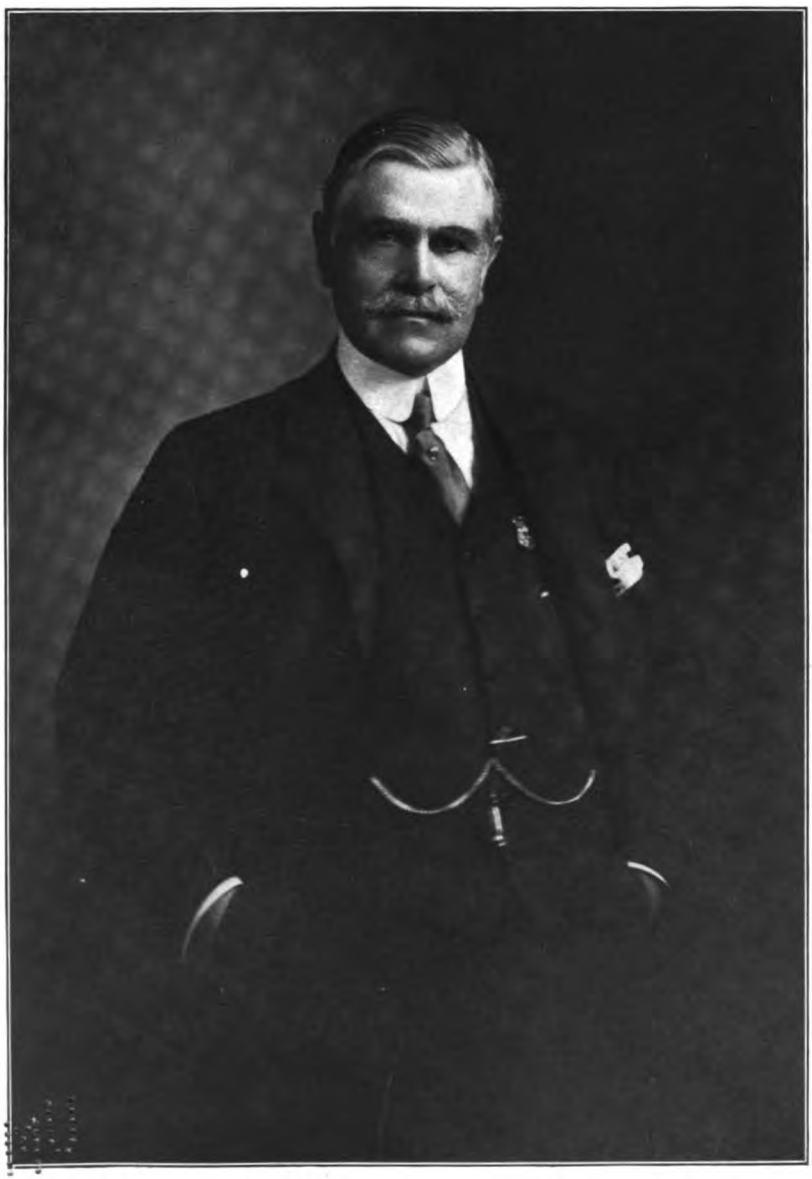

HON. LOUIS R. CHENEY, MAYOR.

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Hartford Conn.

MUNICIPAL REGISTER *of the* City of Hartford

CONTAINING a List of the Officers of the City Government and its Various Departments; also, Message of the Mayor and the Annual Reports of the Several Departments for the Year 1912-1913; Ordinances of the City, etc.

Printed by THE CASE, LOCKWOOD & BRAINARD CO., *Hartford, Conn.*

1913

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COMPILED AND ARRANGED

BY

HENRY F. SMITH,

City Clerk,

IN ACCORDANCE WITH A RESOLUTION PASSED BY THE COURT OF COMMON COUNCIL, AND ISSUED UNDER THE DIRECTION OF THE JOINT STANDING COMMITTEE ON PRINTING.

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CITY OFFICERS.

1913-1914

Mayor.

LOUIS R. CHENEY.

Office: City Hall. Residence, 40 Woodland St.
Elected April 2, 1912. Term expires first Tuesday in April, 1914.
Salary, $3,500 per year.

Clerk.

HENRY F. SMITH.

Office: Halls of Record. Residence, 29 Lorraine St.
Elected April 2, 1912. Term expires first Monday in June, 1914.
Salary, $2,000 per year.

Collector.

OTIS J. HART.

Office: Halls of Record. Residence, 397 Sigourney St.
Elected April 2, 1912. Term expires first Monday in June, 1914.
Salary, $4,000 per year.

Treasurer.

CHARLES H. SLOCUM.

Office: City Hall. Residence, 148 Beacon St.
Elected April 2, 1912. Term expires first Monday in June, 1914.
Salary, $4,000 per year.

Controller.

CHARLES H. ROBINS.

Office: City Hall. Residence, 26 Lenox St.
Elected April 2, 1912. Term expires first Monday in June, 1914.
Salary, $2,500 per year.

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Marshal.

HART TALCOTT.

Office: City Hall. Residence, 149 High St.
Elected April 2, 1912. Term expires first Tuesday in April, 1914.
Salary, $500 per year.

Town Clerk.

	Office:
HENRY F. SMITH,	Halls of Record

Elected April 2, 1912. Term expires first Monday in June, 1914.
Compensation by fees.

Registrars of Electors.

EDWARD S. YOUNG,	Halls of Record
WILLIAM COTTER,	" " "

Elected April 2, 1912. Terms expire in January, 1915.
Salary, $2,400 per year, each.

Assessors.

ROBERT D. BONE,	Halls of Record
P. DAVIS OAKEY,	" " "
JAMES T. FARRELL,	" " "

Elected April 1, 1913. Terms expire in June, 1916.
Salary, $2,500 per year, each.

Selectmen.

HALSEY B. PHILBRICK, First Selectman,	Halls of Record
WILLIAM J. TOLHURST,	" " "
LOUIS ELSNER,	" " "
SIDNEY L. BACHARACH,	" " "
JOHN F. MORGAN,	" " "

Elected April 2, 1912. Terms expire in June, 1914.
Compensation for each member for all sessions not exceeding two hours, $2.50; each additional hour, $1.25.

Constables.

THOMAS J. CONROY,	756 Main St.
CHARLES TAUSSIG,	877 Main St.

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	Office:
EDWARD J. LACY,	902 Main St.
JAMES R. GRAHAM,	Room 14, 756 Main St.
WILLIAM A. FOLEY,	Room 35, 50 State St.
ANDREW F. SHEEHAN,	902 Main St.
SAMUEL J. CARROLL,	24 Allyn St.

Elected April 4, 1911, for a term of four years.
Compensation by fees.

Special Constable.

THOMAS F. MURRAY, City Hall

Grand Jurors.

H. J. CALNEN,	36 Pearl St.
WILLIAM J. HAMERSLEY,	739 Main St.
GEORGE J. BYRNE,	38 Whitmore St.
MORRIS OLDER,	1026 Main St.
JOHN W. JOY,	50 State St.
JAMES W. KNOX,	50 State St.

Elected April 2, 1913, for a term of one year.

Recorder City Court.

HERBERT S. BULLARD, 2 Central Row

Appointed by the General Assembly, 1911, for a term of two years.
Salary, $2,500 per year.

Clerk of City Court.

HERBERT A. ROSS, 36 Pearl St.

Appointed by the Recorder of the City Court.
Salary $1,500 per year.

Corporation Counsel.

EDWARD L. STEELE, 902 Main St.

Appointed by the Mayor and confirmed by the Board of Aldermen, April 28, 1913, to fill out the unexpired term of Arthur L. Shipman, resigned, Term expires, May 1, 1914.
Salary, $5,000 per year.

Assistant Corporation Counsel.

HENRY J. MARKS, 50 State St.

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Judge of Police Court.

Office:

WALTER H. CLARK, 50 State St.

Chosen by General Assembly, 1911, for a term of two years.
Term expires 1913.
Salary, $2,200 per year.

Associate Judge of Police Court.

EDWARD L. STEELE, 902 Main St.

Appointed by the General Assembly, 1911.
Compensation per day while acting, same as that of Judge.

Clerk of Police Court.

JOHN L. BONEE, 36 Pearl St.

Appointed by Judge of Police Court.
Salary, $1,200 per year.

Prosecuting Attorney.

EDWIN C. DICKENSON, 50 State St.

Appointed by Judge of Police Court.
Salary, $1,800 per year.

Special Prosecuting Attorney.

JOHN F. FORWARD, 11 Central Row

Appointed by Judge of Police Court.
Compensation by fees.

Building Inspector.

BURTON S. CLARK, City Hall

Salary, $2,500 per year.

Assistant Building Inspector.

JOHN F. CONNIFF, City Hall

Salary, $1,500 per year.
Each appointed by Mayor and confirmed by the Board of Aldermen, for a term of two years, beginning on the first of January, 1913.

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Port Warden.

	Office:
CHARLES GESNER,	Steamboat Dock

Salary, $25.00 per year.
Appointed by concurrent vote in Court of Common Council, April 14, 1913, for a term of one year.

Sealer of Weights and Measures, Inspector of Firewood and Special Constable.

THOMAS F. MURRAY,	City Hall

Salary, $1,400 per year, and $600 for traveling expenses.
Appointed by the Mayor. Term expires May 1, 1913.

Committee on Abatement of Taxes.

D. J. SULLIVAN, 1 year,	Halls of Record
FRED J. BROWN, 2 years,	" " "
BERNARD FARRELL, 3 years,	" " "

Appointed by concurrent vote of Court of Common Council.
Compensation voted by Court of Common Council.

Rate Maker.

DENNIS J. MURPHY,	Halls of Record

Salary, $400 per year.
Appointed by concurrent vote in Court of Common Council, April 14, 1913, for a term of one year.

City Weighers.

Appointed by concurrent vote in Court of Common Council for a term of one year.
Compensation by fees.

Beatman, W.	Curtis William
Black, W. J.	Dean, F. D.
Blodgett, H. L.	Delaney, E. H.
Blumenthal, H. S.	Deming, G. W.
Clapp, H. N.	Dougherty, Thomas J.
Clapp, Roger Otis	Doyle, W. M.
Cohn, Jacob M.	Feinberg, Elizabeth
Cohen, Sarah	Fisher, G. C.
Colpitts, A. B.	Foley, Michael J.
Cowley, E. F.	Fortin, J. J.
Curry, Eugene H.	Frey, Chas. W.

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Fury, M. C.
Goldberg. A. D.
Gothold, I.
Grady, G. E.
Green, J. P.
Greenberg, Alice C.
Gross, S.
Hale, Charles R.
Hanmer, W. E.
Harding, Caleb B.
Hess, Charles T.
Hess, William
Holcombe, H.
Horan, J.
Humphrey, L. E.
Hussey, Edward
Hussey, J, C.
Hynes, M.
Johnson, W. B.
Katz, Jacob
Katz, Nathan
Laragy, William T.
Levine, H.
Main, L. S.
Mather, Samuel
McKernan, Bertha
McNamara, T. W.
Miller, W. H.
Mintz, Isaiah
Morrissey, John
Murlless, H. C.
Murphy, Daniel W.
Murphy, T. C.
Murphy, Vincent P.
Newton, Charles W.
Noble, Henry D.
Northam, R. C.
O'Callaghan, John
O'Donnell, Thomas
Ott, John
Price George T.
Randall, A. M.
Reed, A. D.
Reilly, J. H.
Relyea, C. A.
Ryan, W. F.
Sack, H.
Sage, Louise, Mrs.
Sheketoff, M. S
Strever, J. E.
Strong, C. H.
Tefft, F. M.
Thorp, H. L.
Todd, G. H.
Valentine, N. G.
Whalen, John E.
Wheeler, Geo. L.
White, Harris
Winneck, Rebecca
Woodward, Charles S.

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BOARD OF ALDERMEN.

1913-1914

[This Board consists of twenty members, two from each ward. One-half the members (one from each ward) are elected annually to serve for two years, thus making it a permanent body. No compensation.]

President.

HIS HONOR, THE MAYOR, *ex-officio.*

Acting President.

	Residence
MALICHI J. HOGAN,	53 Grove St.

Clerk.

HENRY F. SMITH,	29 Lorraine St.

Messenger.

FRANK S. CUSHMAN,	253 Jefferson St.

Salary, $100 per year.

First Ward.

EDWIN H. KETTER, 11 Arch St.
Elected April 2, 1912. Term expires in April, 1914.

MALICHI J. HOGAN, 53 Grove St.
Elected April 1, 1913. Term expires in April, 1915.

Second Ward.

WILLIAM T. TOBIN, 11 Avon St.
Elected April 2, 1912. Term expires in April, 1914.

DANIEL D. DOYLE, 89 Canton St.
Elected April 1, 1913. Term expires in April, 1915.

Third Ward.

ANDREW H. TRYON, 215 Barbour St.
Elected April 2, 1912. Term expires in April, 1914.

CHARLES H. DRESSER, 15 Clark St.
Elected April 1, 1913. Term expires in April, 1915.

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Fourth Ward.

A. STORRS CAMPBELL, 23 Norfolk St.
Elected April 2, 1912. Term expires in April, 1914.

ALLEN H. NEWTON, 218 Collins St.
Elected April 1, 1913. Term expires in April, 1915.

Fifth Ward.

FERDINAND D'ESOPO, 1179 Main St.
Elected April 2, 1912. Term expires in April, 1914.

HENRY H. JENNINGS, 112 Ann St.
Elected April 1, 1913. Term expires in April, 1915.

Sixth Ward.

ALBERT P. KRONE, 389 Main St.
Elected April 2, 1912. Term expires in April, 1914.

BENJAMIN KASHMANN, 143 Capitol Ave.
Elected April 1, 1913. Term expires in April, 1915.

Seventh Ward.

WILLIAM A. CROSSCUP, 96 Maple Ave.
Elected April 2, 1912. Term expires in April, 1914.

GEORGE F. ROBERTS, 352 Franklin Ave.
Elected April 1, 1913. Term expires in April, 1915.

Eighth Ward.

JOHN A. FOX, 53 Ward St.
Elected April 2, 1912. Term expires in April, 1914.

JOHN P. GUNNING, 413 Broad St.
Elected April 1, 1913. Term expires in April, 1915.

Ninth Ward.

ALBERT O. BLOOM, 318 Park St.
Elected April 2, 1912. Term expires in April, 1914.

JOHN W. KENNEDY, 146 Park Terrace
Elected April 1, 1913. Term expires in April, 1915.

Tenth Ward.

ARCHER KNOWLTON, 64 Hazel St.
Elected April 2, 1912. Term expires in April, 1914.

WILLIAM B. BASSETT, 130 Kenyon St.
Elected April 1, 1913. Term expires in April, 1915.

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STANDING RULES OF BOARD OF ALDERMEN.

I. The Mayor, or in his absence, the Acting President, or in their absence a president *pro tem.*, who shall be appointed by the Board, shall preside, and, on the appearance of a quorum, shall call the members to order, and cause the record of the previous meeting to be read, that any mistake in the entries may be corrected.

II. The presiding officer shall preserve order and decorum; may speak on questions of order in preference to other members, and shall decide questions of order subject to appeal.

III. The business in order, after reading of the record of the previous meeting, shall be, first, the reading and disposal of petitions, and each petition and memorial shall be referred to a committee unless the Board shall otherwise order; second, the reading and disposal of reports of committees, reports of standing committees to have preference.

IV. When any Alderman is about to speak in debate, he shall rise from his seat and respectfully address the presiding officer; shall confine himself to the question under debate, and avoid personalities and imputing to any member improper motives.

V. If any Alderman, in speaking or otherwise, transgresses the rules of the Board, the Chair shall, or any member may, call to order; in which case the Alderman so called to order shall sit down, unless permitted to explain. When there is an appeal to the Board, and a decision in favor of the Alderman called to order, he shall be at liberty to proceed; if otherwise, he shall not be permitted to proceed without leave of the Board.

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VI. When a motion is made and seconded, it shall be stated by the Chair, or, being in writing, shall be read aloud before being debated. Every motion shall be reduced to writing if the Chair or any Alderman desire it; and during the time of debate, or when the presiding officer is speaking, no Alderman shall hold private discourse, or pass between the speaker and the Chair.

VII. No Alderman shall speak more than twice on the same question, or more than five minutes the first, and ten minutes the second time, without leave of the Board.

VIII. The mover of a question may withdraw his motion at any time before a decision or amendment; and when a question has been decided, it shall be in order for any Alderman in the prevailing vote to move the reconsideration thereof, if, at the time, the subject matter shall be in possession of the Board; and such motion shall take precedence of all other questions, except a motion to adjourn.

IX. When a question is under debate, no motion shall be received but to adjourn, to lay on the table, for the previous question, to postpone indefinitely, to postpone to a day certain, to commit, or to amend; which several motions shall have precedence in the order in which they stand arranged. The motion to adjourn shall always be in order; that, and the motions to lay on the table, and for the previous question, shall be decided without debate.

X. The yeas and nays shall be taken when called for by five Aldermen; and when taken, the names of the Aldermen shall be called in the order of wards.

XI. No Alderman shall be excused from voting on any question unless he is personally interested in the result, or shall be excused by vote of the Board; and no Alderman shall be permitted to vote after the decision is announced from the Chair.

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XII. All nominations requiring confirmation by this Board alone, shall be laid on the table without debate until the next meeting of the Board.

XIII. Cushing's Manual shall be parliamentary authority in this Board except as hereinbefore provided.

XIV. Any of the foregoing rules of this Board may be suspended by a majority of its members present voting in the affirmative.

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COMMON COUNCIL BOARD.

1913-1914

[Members of this Board are elected annually, and the term of each of the following will expire on the first Monday in April, 1914. No compensation.]

	Residence
President.	
ANDREW G. NYSTROM,	150 High St.
Vice-President.	
THOMAS F. LEAVY,	10 Ellery St.
Clerk.	
JOHN F. GAFFEY,	70 Ann St.

[Office: 75 Pratt St.]
Salary, $400 per year, and $100 for indexing Journal.

Messenger.	
JAMES WYLIE,	39 Spring St.

Salary, $100 per year.

First Ward.	
THOMAS F. LEAVY,	10 Ellery St.
JOSEPH PRICE,	80 State St.
WILLIAM F. O'BRIEN,	220 Sheldon St.
EDWARD A. WELCH,	84 Arch St.
Second Ward.	
JOHN T. CLANCY,	383 Windsor St.
WILLIAM RAPHAEL,	16 Kennedy St.
HENRY MELROSE,	32 Kennedy St.
ROBERT E. VAIL,	275 Windsor St.

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Third Ward.

THOMAS MCAULIFFE,	58 Clark St.
JOHN F. HENDERSON,	342 Albany Ave.
HERBERT FENNO,	53 Mahl Ave.
FRED D. CLARK,	199 Barbour St.

Fourth Ward.

RALPH A. HARGER,	23 Burnham St.
SAMUAL H. HAVENS,	277 Sargeant St.
H. LEONARD BEADLE,	39 Burton St.
GEORGE I. WATSON,	293 Sargeant St.

Fifth Ward.

MARTIN MUSSGNUG,	18 So. Ann St.
ANDREW G. NYSTROM,	150 High St.
EDWIN M. DAHILL,	152 Asylum St.
ULYSSES H. BROCKWAY, Jr.,	16 Chapel St.

Sixth Ward.

WILLIAM J. IRWIN,	15 Oak St.
JOHN W. GUILFOIL,	157 Capitol Ave.
JAMES F. O'DONNELL,	54 Hungerford St.
TIMOTHY J. QUINN,	95 Wadsworth St.

Seventh Ward.

EDWARD C. SULLIVAN,	16 Alden St.
MICHAEL J. HUSSEY,	27 Whitmore St.
GEORGE E. SPEATH,	130 South St.
RICHARD HUGO ANDREE,	116 Campfield Ave.

Eighth Ward.

THOMAS F. BURNS,	20 Affleck St.
JOHN C. RICE,	228 New Britain Ave.
WILLIAM J. MORAN,	60 Madison St.
DANIEL KELLEY, Jr.,	24 Putnam St.

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Ninth Ward.

SAMUAL SERAPHIN,	168 Putnam St.
JOSEPH P. SHAUGHNESSY,	29 Putnam Heights
SIMON KASHMANN,	46 Sumner St.
FRANK JOHNSON,	15 Mortson St.

Tenth Ward.

ALFRED G. ELMER,	77 Hazel St.
RALPH D. BRITTON,	49 Girard Ave.
FRANCIS W. COLE,	28 Atwood St.
EDWARD J. MANNING,	123 Sigourney St.

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STANDING RULES OF THE COMMON COUNCIL BOARD.

I. The President, or in his absence the Vice-President, or in their absence a member then elected by the Board, shall preside, and, on the appearance of a quorum, shall call the members to order.

II. The presiding officer shall preserve order and decorum; may speak on questions of order in preference to other members, and shall decide questions of order subject to an appeal to the Board.

III. The business in order shall be — First, disposal of minutes of last meeting; second, disposal of petitions; third, disposal of reports of committees. Every petition shall be referred to a committee, unless otherwise ordered by the Board.

IV. When any member is about to speak, he shall rise from his seat and respectfully address the presiding officer; shall confine himself to the question under debate, shall avoid personalities, and impute to no member any improper motives.

V. If any member, in speaking or otherwise, transgresses the rules of the Board, the Chair or any member may call him to order, in which case the member called to order shall sit down, unless permitted to explain by vote of the Board. If, after such explanation, or in the absence of the same, the call to order be insisted upon, the member called to order shall be at liberty to proceed only with the permission of the Board on appeal of two members.

VI. When a motion is made, it shall be stated by the Chair, or if in writing, it shall be read aloud before being debated. Every motion shall be reduced to writing if any member desire;

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and during the time of debate, or when the presiding officer is speaking, no member shall hold private discourse or pass between the speaker and the Chair.

VII. No member shall speak more than twice on the same question, or more than five minutes the first, and ten minutes the second time, without leave of the Board.

VIII. The mover of a question may withdraw his motion at any time before a decision or amendment; and when a motion has been carried, it shall be in order for any member in the majority to move the reconsideration thereof at any time while the papers appertaining to the same are in possession of the Board.

IX. When a question is under debate, no motion shall be received, but to adjourn, to lay on the table, for the previous question, to postpone indefinitely, to postpone to a day certain, to commit or amend; which several motions shall have precedence in the order in which they are here arranged.

X. The yeas and nays shall be taken, when called for by five members, and when taken, the names of the members shall be called by wards, beginning with the First Ward.

XI. No member shall be excused from voting on any question, unless personally interested in the result, or excused by the Board, and no member shall be permitted to vote after a decision is announced from the Chair.

XII. Cushing's Manual shall be parliamentary authority in this Board except as hereinbefore provided.

XIII. Any of the foregoing rules of this Board may be suspended by two-thirds of its members present voting in the affirmative.

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JOINT STANDING COMMITTEES.

[Appointed April, 1913. Terms expire first Monday in April, 1914.]

Amusements.

Alderman John A. Fox, Chairman; Councilmen H. Leonard Beadle and William Raphael.

Auditing.

Controller Charles H. Robins, Chairman; Alderman William A. Crosscup and Councilman Edwin M. Dahill.

Charity Department.

Alderman Ferdinand D'Esopo, Chairman; Councilmen John T. Clancy, Herbert Fenno, and Frank Johnson.

City Buildings.

Alderman William T. Tobin, Chairman; Councilmen Martin Mussgnug and Thomas F. Leavy.

Claims.

Alderman Daniel D. Doyle, Chairman; Councilmen George I. Watson, Daniel Kelley, Jr., and Edward A. Welch.

Contract and Supply.

His Honor the Mayor, President, *ex-officio;* Horace B. Clark, Alvan W. Hyde, Cuno A. Helfricht and Joseph Buths, Secretary.

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Education.

Alderman Allen H. Newton, Chairman; Councilmen John W. Guilfoil and Michael J. Hussey.

Finance.

His Honor the Mayor, President, *ex-officio;* the Treasurer, Clerk, Controller, also *ex-officio;* Alderman William B. Bassett, Councilman Joseph Price; Citizens Ralph W. Cutler and Francis R. Cooley.

Fire Department.

Alderman Albert P. Krone, Chairman; Councilmen Alfred G. Elmer, William J. Moran and Thomas McAuliffe.

Manufactures.

Alderman Archer Knowlton, Chairman; Councilmen Edward J. Manning and Edward C. Sullivan.

Nominations.

Alderman ..... Chairman; Councilmen Joseph C. Shaughnessy, George E. Speath and Robert E. Vail.

Ordinances.

Edward L. Steele, Corporation Counsel, Chairman; Alderman Edwin H. Ketter; Councilmen John F. Henderson, Samuel Seraphin and Francis W. Cole.

Police Department.

Alderman John P. Gunning, Chairman; Councilmen Ralph D. Britton, John C. Rice and Henry Melrose.

Printing.

Alderman George F. Roberts, Chairman; Councilmen U. H. Brockway, Jr., and Timothy J. Quinn.

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Public Baths.

Alderman Albert O. Bloom, Chairman; Councilmen Fred D. Clark and Thomas F. Burns.

Railroads.

Alderman Charles H. Dresser, Chairman; Councilmen Samuel H. Havens, Simon Kashmann and William J. Irwin.

Water Department.

Alderman ..... Chairman; Councilmen William F. O'Brien, James F. O'Donnell and Richard Hugo Andree.

Ways and Means.

Alderman John W. Kennedy, Chairman.

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JOINT SPECIAL COMMITTEES.

On Overdue Assessments.

His Honor the Mayor, Chairman *ex-officio;* Otis J. Hart, City Collector; Edward L. Steele, Corporation Counsel; L. P. Waldo Marvin and George H. Gilman.

On Telephones.

Alderman Henry H. Jennings, Chairman; Councilmen Samuel H. Havens and John W. Guilfoil.

On Public Market.

Aldermen Ferdinand D'Esopo and William Crosscup; Councilmen George I. Watson, Edward J. Manning, Thomas F. Burns and Samuel Seraphin.

On Expert Advice in re Efficiency of Departments.

Aldermen William B. Bassett and George F. Roberts; Councilmen Ralph A. Harger, Edward J. Manning, Richard Hugo Andree and Joseph Price.

New Form of City Government.

Aldermen A. Storrs Campbell and Charles H. Dresser; Councilmen H. Leonard Beadle, Francis W. Cole, Thomas F. Leavy and William J. Irwin.

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On Revision of Building Ordinances.

Robert H. Fox, Joseph R. Hughes, Francis W. Cole, H. Hilliard Smith, Charles B. Andrus, Robert Porteus, Edward M. Baldwin and the Building Inspector.

Municipal Building Commission Investigating Committee.

Aldermen Andrew H. Tryon and William B. Bassett; Councilman W. J. Irwin; Citizens Joseph H. Lawler, William Angus and Mark J. Hanlon.

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SPECIAL COMMISSIONS.

Commission on the City Plan.

His Honor the Mayor, President; Joseph Buths, President of the Board of Street Commissioners; Thomas S. Weaver, President of the Board of Park Commissioners; George A. Parker, Superintendent of Parks; Roscoe N. Clark, City Engineer; Alderman Benjamin Kashmann; Councilman Ralph A. Harger, and Citizens William A. Graham and John M. Holcombe.

Public Dock Commission.

Mayor Louis R. Cheney, City Engineer Roscoe N. Clark, Alderman Henry H. Jennings, Councilmen Andrew G. Nystrom and John W. Guilfoil, and Citizens Edward H. Warner, Edwin P. Taylor and Dr. George C. F. Williams.

Municipal Building Commission.

Mayor Louis R. Cheney, Chairman; H. V. H. Proskey, Secretary; Fred J. Bliss, Edward L. Smith, E. Henry Hyde, William BroSmith and Morgan G. Bulkeley, Jr.

Juvenile Commission.

Mrs. Henry Ferguson, one year; Miss Anna E. Trumbull, one year; Rev. Rockwell Harmon Potter, two years; Harry W. Ettelson, secretary, two years; Rev. John F. Ryan, president, three years; Louis H. Stanley, three years.

Vice Commission.

Ernest A. Wells, M.D., Chairman; J. Gilbert Calhoun, vice-chairman; William P. Calder, secretary and treasurer; Mrs. Isaac W. Kingsbury, librarian; Flavel S. Luther, Martin

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Toscan Bennett, Miss Margaret J. Wilkinson, William H. C. Whiting, Morgan B. Brainard, Gustav A. Kleene, Thomas F. Welch, M.D., Edward B. Hooker, M.D., John G. Gill, Ph.D., Walter S. Schutz and Edward L. Smith.

Jury Commission.

Halsey B. Philbrick, Joseph C. Gorton and George F. Kellogg.

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JOINT STANDING RULES.

[As amended and adopted, April 18, 1910.]

I. There shall be appointed the following named Joint Standing Committees, each to consist of one Alderman and three Councilmen:

ON CHARITY DEPARTMENT.
ON CLAIMS.
ON FIRE DEPARTMENT.
ON NOMINATIONS.
ON POLICE DEPARTMENT.
ON RAILROADS.
ON WATER DEPARTMENT.

And the following named Joint Standing Committees, to consist each of one Alderman and two Councilmen:

ON AMUSEMENTS.
ON CITY BUILDINGS.
ON EDUCATION.
ON MANUFACTURES.
ON PRINTING.
ON PUBLIC BATHS.
ON WAYS AND MEANS.

II. The Aldermen and Councilmen on the above Committees shall be appointed each by their respective Boards, and no member of the Common Council Board shall serve on more than one Committee.

III. There shall be a Joint Standing Committee of five on Ordinances; the Corporation Counsel shall be a member and Chairman of this Committee, and there shall be appointed one Alderman by the Board of Aldermen, and three Councilmen by the Common Council Board.

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IV. There shall be a Joint Standing Committee of three, denominated the Auditing Committee, the City Controller shall be a member and Chairman of said Committee, and there shall be one Alderman appointed by the Board of Aldermen, and one Councilman appointed by the Board of Councilmen, who shall hold office during the pleasure of the Board from which they were appointed; and every bill, account, or claim against the City shall be referred to said committee for its approval or disapproval before the same shall be approved by the Court of Common Council, unless both branches of said Court concur in dispensing with such reference.

V. All nominations except such as require the confirmation of the Board of Aldermen alone, shall be referred to the Committee on Nominations, without debate.

VI. The Chairman of all Joint Standing Committees, except the Committees on Ordinances and Auditing, shall be an Alderman.

VII. Each Committee of Conference on disagreeing action of the two Boards shall consist of an Alderman and two Councilmen who were in the prevailing vote of their respective Boards. Whenever a Committee of Conference is appointed, all papers relating to the matters to be considered shall be turned over to such Committee, and when such Committee makes its report to the Court of Common Council, it shall be in writing and submitted together with the papers pertaining thereto to the Board requesting the Conference.

VIII. Whenever each Board shall have adhered to its vote of disagreement, the bill, the vote, or the resolution shall be lost.

IX. Every message from one Board to the other shall be announced at the door, and should be respectfully communicated to the Chair by the person or persons who convey the message.

X. Every petition, remonstrance, vote, resolution, ordinance or report offered for the consideration of either of the Boards of Common Council, shall be fairly written on not less than one-

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half sheet of paper, and the member offering the same shall endorse on the back thereof the substance of the matter so offered in as concise a form as may be, and also his name, unless the paper so offered be the report of a Committee.

XI. All reports of Committees shall be in writing and accompanied by a form of such vote or bill as the Committee reporting shall recommend for the action of the Board. Upon the reading of the report, if no motion is made, the question shall be on its acceptance. Bills or votes reported by a Committee may be recommitted together with the report at any time before their passage or rejection.

XII. Every vote, resolution, remonstrance, petition, ordinance or report which is referred to any Committee or Board of Commissioners shall be reported from that Committee or Board of Commissioners to that Board of the Court of Common Council in which it originated.

XIII. Except as otherwise provided by law, all City contracts, all resolutions, petitions, or reports calling for the appropriation or expenditure of money, all resolutions relating to the appointing of City Officials or the filling of offices or vacancies therein, and all ordinances when not referred to a Committee, shall be tabled for printing, provided, however, that any resolution, vote, petition, contract, or report, properly signed and endorsed and placed in the hands of the City Clerk at least three days preceding a meeting of the Council, may be acted upon at such meeting.

XIV. Neither Board of the Court of Common Council shall adjourn while there is business before either Board yet to be acted upon in concurrence.

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BOARDS OF COMMISSIONERS.

1913-1914.

Charity Commissioners.

Richard J. Dillon,	term expires		1914
George B. Bradford,	"	"	1914
Cuno A. Helfricht, President,	"	"	1915
Joel W. Johnson,	"	"	1915
George F. Kellogg,	"	"	1916
Charles G. Lincoln, Vice-President,	"	"	1916

W. W. Stillman, Superintendent; H. G. Bailey, Clerk.

Fire Commissioners.

Charles J. Dillon,	term expires		1914
Solomon Youngman,	"	"	1914
Solomon Elsner,	"	"	1915
William McKone,	"	"	1915
Daniel Readett,	"	"	1916
Horace B. Clark, President,	"	"	1916

George A. Reynolds, Clerk.

Health Commissioners.

James F. Duffy,	term expires		1914
Paul Waterman, M.D.,	"	"	1914
Thomas J. Kelley, President,	"	"	1915
Joseph Kashmann,	"	"	1915
Frank G. Macomber,	"	"	1916
John F. Dowling, M.D.,	"	"	1916

C. P. Botsford, M.D., Superintendent.
Myron B. Yaw, Assistant Clerk.

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Park Commissioners.

Thomas S. Weaver, President,	term expires	1914
Charles H. Clark,	" "	1915
Rev. M. A. Sullivan,	" "	1916
William A. Moore,	" "	1917
Francis Parsons,	" "	1918
Lyman B. Brainerd,	" "	1919
Rev. James Goodwin, Vice-President,	" "	1920
Mrs. Appleton R. Hillyer,	" "	1921
Guy E. Beardsley,	" "	1922
Charles Wells Gross,	" "	1923

F. G. Whitmore, Secretary, Bookkeeper and Public Cemeteries Agent.

George A. Parker, Superintendent and Business Agent.

Police Commissioners.

Alvan W. Hyde, Acting President,	term expires	1914
Burton L. Newton,	" "	1914
Morgan B. Brainard,	" "	1915
William H. C. Whiting,	" "	1915
Joseph C. Gorton,	" "	1916
M. Cole Kennedy,	" "	1916

William A. Baedor, Clerk.

Street Commissioners.

Joseph Buths, President,	term expires	1914
Warren T. Bartlett,	" "	1914
Henry S. Atwood,	" "	1915
William J. Hamersley,	" "	1915
William F. O'Neil, Vice-President,	" "	1916
Francis A. Palloti,	" "	1916

Raymond L. Slocum, Clerk.

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Water Commissioners.

Edward B. Hatch,	term	expires	1914
Thomas A. Shannon,	"	"	1914
F. Spencer Goodwin,	"	"	1915
Richard J. Kinsella,	"	"	1915
Philip B. Gale,	"	"	1916
Charles L. Tuttle,	"	"	1916

Fred D. Berry, Secretary.

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STATEMENT OF TOWN VOTE.

Held First Tuesday in April, 1913.

	WARDS.										
	1	2	3	4	5	6	7	8	9	10	Total
Assessors.											
*James T. Farrell,	318	331	603	461	263	419	845	645	500	397	4782
Henry J. McDonough,	300	293	604	437	250	364	780	664	431	408	4531
*Robert D. Bone,	130	255	583	651	313	348	847	582	431	903	5043
*P. Davis Oakey,	123	262	590	670	318	350	783	567	425	886	4974
Frank Warounig,	10	11	27	5	4	10	26	20	10	10	133
Henry Kuehn,	10	11	28	2	5	11	22	20	14	9	132
John Scanlon,	8	32	50	24	11	22	82	52	38	25	344
Henry McMahon,	10	32	50	25	10	25	85	51	39	24	351
Grand Jurors.											
*Henry J. Calnen,	327	325	620	469	262	415	878	703	503	421	4923
*William J. Hamersley,	330	328	627	480	263	417	886	711	512	433	4987
*George J. Byrne,	331	326	622	465	261	419	873	701	500	417	4915
*Morris Older,	120	262	593	665	323	356	805	563	429	898	5014
*John W. Joy,	118	260	589	665	320	353	801	566	428	898	4998
*James W. Knox,	119	262	593	668	322	354	807	565	428	907	5025
Frederick Fellermann,	10	11	26	3	4	10	20	17	12	9	122
Frederick Lechner,	10	11	24	3	4	11	20	17	12	9	121
Albert H. Gierginsky,	10	11	25	3	4	10	20	17	12	9	121
High School Committee.											
*George Zunner,	333	330	624	478	263	426	890	715	507	428	4994
James H. Naylor,	322	331	628	462	258	424	872	697	500	424	4918
*Moritz Wieder,	333	327	625	464	260	422	880	701	503	425	4940
*James N. H. Campbell,	116	261	590	658	323	353	800	556	432	892	4981
*John J. McCook,	123	267	591	678	327	357	816	568	439	913	5079
*William H. Scoville,	115	264	588	678	327	360	801	569	436	911	5049
Charles F. Roberts,	11	12	27	4	4	13	21	17	12	8	129
William Mentze,	10	13	27	3	4	11	21	18	12	9	128
Joseph Maier,	11	12	27	3	6	12	20	17	11	9	128
Mrs. J. Felber,	9	31	53	26	10	24	85	49	39	26	352
Elmer Tamblin,	10	31	53	24	10	23	88	49	40	26	354
Edward J. Whittemore,	9	31	53	24	10	23	87	49	40	27	353
School Visitors.											
William J. McDonough,	323	320	614	460	260	416	880	685	487	409	4854
*Michael A. Bailey,	328	326	608	453	261	421	874	701	499	408	4879
*Thomas S. Weaver,	120	273	605	685	324	365	812	574	439	915	5112
*Wilbur F. Gordy,	121	270	602	688	327	363	812	568	445	916	5112
James B. Williams,	10	11	26	4	5	10	20	17	11	9	123
Joseph Rossmeisl,	11	11	27	3	4	12	20	17	11	9	125
Robert A. McJunkin,	10	30	52	24	10	24	89	50	40	25	354
Mrs. Lena Bienstock,	9	31	51	25	10	24	87	49	40	25	351

*Elected.

STATEMENT OF VOTE OF SPECIAL TOWN ELECTION.

Held Monday, October 6, 1913.

	WARDS									
	1	2	3	4	5	6	7	8	9	10 Total
Constitutional Amendment Concerning the Compensation of Members of the General Assembly.										
YES.	11	14	17	26	20	31	32	26	24	30 231
NO.	53	54	88	112	65	112	144	81	130	198 1037

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STATEMENT OF VOTE OF CITY MEETING.

Held First Tuesday in April, 1913.

	WARDS										
	1	2	3	4	5	6	7	8	9	10	Total
Appropriation of $500,000 for Purchase of Lands of Connecticut River Bridge and Highway District Commission.											
YES,	53	59	123	204	65	125	260	139	106	286	1420
NO,	77	50	316	326	109	190	467	308	197	346	2386
Appropriation of $100,000 for Erecting and Equipping a Public Contagious Hospital.											
YES,	67	93	240	373	109	207	503	279	223	481	2575
NO,	61	25	199	185	49	116	265	162	128	202	1392
Appropriation of $60,000 for Purchasing Land for Fire Department Purposes.											
YES,	47	64	183	280	87	169	371	188	172	321	1882
NO,	64	37	224	235	57	127	331	200	138	252	1665
Appropriation of $35,000 for Construction of Maple Avenue Sewer System.											
YES,	61	56	171	251	80	153	512	312	159	310	2065
NO,	58	37	230	245	54	119	235	162	140	262	1542
Appropriation of $17,000 for Erecting a Bathhouse in Pope Park.											
YES,	89	55	172	247	84	175	342	269	185	340	1958
NO,	56	39	246	264	68	129	353	205	130	296	1786
Appropriation of $17,000 for Construction of Continuation of Homestead Avenue Intercepting Sewer.											
YES,	64	61	175	326	79	159	338	210	166	306	1884
NO,	71	41	229	208	63	123	313	232	139	282	1701

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STATEMENT OF VOTE OF CITY MEETING.

HELD FIRST TUESDAY IN APRIL, 1913.

WARD OFFICERS.

First Ward.

Alderman.

Malichi J. Hogan,*	323
James H. Barry,	126
James Blaine,	9

Councilmen.

Thomas F. Leavy,*	327
Joseph Price,*	306
William F. O'Brien,*	331
Edward A. Welch,*	328
William J. Ryan,	126
Francis J. Conti,	137
Arthur J. Elmgren,	118
John J. Haydosz,	126

Second Ward.

Alderman.

Daniel D. Doyle,*	309
Francis A. Pallotti,	279
Robert Jameson, Jr.,	29

Councilmen.

John T. Clancy,*	316
William Raphael,*	318
Henry Melrose,*	344

*Elected.

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Robert E. Vail,*	315
Saul Berman,	273
Everett J. McKnight,	265
Marshall A. Molloy,	246
David D. Glanz,	272
M. Becker,	30
E. Gaberman,	31

THIRD WARD.

Alderman.

Charles H. Dresser,*	645
Samuel E. Herrup,	558
John Newman,	48

Councilmen.

Thomas McAuliffe,*	623
John F. Henderson,*	636
Herbert Fenno,*	626
Max Maisleri,	598
Frank S. Flagg,	586
Joseph M. Clark,	583
Charles W. Roberts,	588
Fred D. Clark,*	601
W. T. Thuer,	49
H. Becker,	49
Gustave Quilitzch,	49
M. A. Kelley,	49

FOURTH WARD.

Alderman.

Richard F. Gibbs,	474
Allen H. Newton,*	663
Frank Steinmiller,	23

Councilmen.

John J. Morgan,	461
John J. Looney,	465

*Elected.

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Joseph Solomon,	462
George C. Loveland,	464
Ralph A. Harger,*	675
Samuel H. Havens,*	673
H. Leonard Beadle,*	666
George I. Watson,*	672
Elwood Schwartz,	24
M. Becker,	23
Edward Sweeney,	22

FIFTH WARD.

Alderman.

Sidney E. Clarke,	256
Henry H. Jennings,*	325
John Riley,	11

Councilmen.

Joseph A. Bixby,	264
Joseph Donovan,	262
James J. Harding,	258
Joseph E. Dunn,	267
Martin Mussgnug,*	317
Andrew G. Nystrom,*	317
Edwin M. Dahill,*	319
Ulysses H. Brockway, Jr.,*	314

SIXTH WARD.

Alderman.

Benjamin Kashmann,*	435
Solomon R. Herrup,	329
Albert Balkan,	25

Councilmen.

William J. Irwin,*	423
John W. Guilfoil,*	425
James F. O'Donnell,*	414

*Elected.

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Timothy J. Quinn,*	408
William J. Reid,	346
Thomas W. Hooker,	348
Benedict E. Lyons,	352
Alexander W. Creedon,	361
Michael Filbig,	23
Reginald Orne,	23
David Farrington,	25

SEVENTH WARD.

Alderman.

George F. Roberts,*	846
Peter R. Martin,	831
Martin J. Connolly,	87

Councilmen.

Edward C. Sullivan,*	876
Michael J. Hussey,*	861
George E. Speath,*	877
Richard Hugo Andree,*	879
Fred E. McKinney,	805
Heman A. Tyler,	812
William A. Shew,	808
Clayton E. Pierce,	808
Fred D. Barnes,	87
Joseph Hauser,	85
William Hills,	84
Richard McInness,	85

EIGHTH WARD.

Alderman.

John P. Gunning,*	653
Bernard Burns,	605
James McIntyre,	49

*Elected.

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Councilmen.

Thomas F. Burns,*	692
John C. Rice,*	701
William J. Moran,*	693
Daniel Kelley, Jr.,*	696
Charles Nickse,	573
Martin Christensen,	567
William C. Wilks,	569
Neils Nelson,	566
Herman Dressing,	50
A. Olafson,	51
H. Stone,	51
Michael Mullins,	50

NINTH WARD.

Alderman.

John W. Kennedy,*	510
Harold G. Baldwin,	430
Robert Britt,	40

Councilmen.

Samuel Seraphin,*	496
Joseph P. Shaughnessy,*	502
Simon Kashmann,*	501
Frank Johnson,*	495
Henry J. Cudworth,	447
Allan G. Anderson,	434
C. De Lancey Alton, Jr.,	435
James P. English,	452
Leon Loudeck,	45

TENTH WARD.

Alderman.

James T. Gettersloh,	411
William B. Bassett,*	911
John Blake,	25

*Elected.

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Councilmen.

Frank O. Moody,	414
Alexander Laporte,	417
William J. Egan,	421
Fred J. Morrison,	411
Alfred G. Elmer,*	914
Ralph D. Britton,*	910
Francis W. Cole,*	911
Edward J. Manning,*	918
Harvey Frantz,	25
John Steward,	25
John G. Colbert,	25

*Elected.

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MAYORS OF THE CITY OF HARTFORD.

The City was incorporated May 29, 1784, and until 1825 the Mayor held his office during the pleasure of the General Assembly. Since 1825 he is elected for two years.

Hon.	Thomas Seymour,*	Elected	June	18,	1784	to May 28,	1812
"	Chauncey Goodrich,	"	June	8,	1812,	to Sept. 9,	1815
"	Jonathan Brace,	"	Sept.	9,	1815,	to Nov. 22,	1824
"	Nathaniel Terry,	"	Nov.	22,	1824,	to Mar. 28,	1831
"	Thomas S. Williams,	"	Mar.	28,	1831,	to April 27,	1835
"	Henry L. Ellsworth,†	"	April	27,	1835,	to June 15,	1835
"	Jared Griswold,‡	"	June	15,	1835,	to Nov. 22,	1835
"	Jeremy Hoadley, Sen. Ald.,	"	Nov.	23,	1835,	to April 18,	1836
"	Henry Hudson,	"	April	18,	1836,	to April 20,	1840
"	Thomas K. Brace,†	"	April	20,	1840,	to April 17,	1843
"	Amos M. Collins,	"	April	17,	1843,	to April 19,	1847
"	Philip Ripley,	"	April	19,	1847,	to April 21,	1851
"	Ebenezer Flower,	"	April	21,	1851,	to April 18,	1853
"	Wm. James Hamersley,	"	April	18,	1853,	to April 17,	1854
"	Henry C. Deming,	"	April	17,	1854,	to April 12,	1858
"	Timothy M. Allyn,	"	April	12,	1858,	to April 8,	1860
"	Henry C. Deming,†	"	April	9,	1860,	to Jan. 27,	1862
"	Charles Benton,**	"	Feb.	10,	1862,	to April 14,	1862
"	Wm. James Hamersley,	"	April	14,	1862,	to April 11,	1864
"	Allyn S. Stillman,	"	April	11,	1864,	to April 9,	1866
"	Charles R. Chapman,	"	April	9,	1866,	to April 1,	1872
"	Henry C. Robinson,	"	April	1,	1872,	to April 6,	1874
"	Joseph H. Sprague,	"	April	6,	1874,	to April 1,	1878
"	George G. Sumner,	"	April	1,	1878	to April 5,	1880
"	Morgan G. Bulkeley,	"	April	5,	1880,	to April 2,	1888
"	John G. Root,	"	April	2,	1888,	to April 7,	1890
"	Henry C. Dwight,	"	April	7,	1890,	to April 4,	1892
"	William Waldo Hyde,	"	April	4,	1892,	to April 2,	1894
"	Leverett Brainard,	"	April	2,	1894,	to April 6,	1896
"	Miles B. Preston,	"	April	6,	1896,	to April 2,	1900
"	Alexander Harbison,	"	April	2,	1900,	to April 7,	1902
"	Ignatius A. Sullivan,	"	April	7,	1902,	to April 4,	1904
"	William F. Henney,	"	April	4,	1904,	to April 7,	1908
"	Edward W. Hooker,	"	April	7,	1908,	to April 5,	1910
"	Edward L. Smith,	"	April	5,	1910,	to April 2,	1912
"	Louis R. Cheney,	"	April	2,	1912		

*Resigned to the General Assembly. † Resigned. ‡ Died in office.
** Elected by Court of Common Council.

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CLERKS OF THE CITY OF HARTFORD.

William Adams,	Elected June	28, 1784
Solomon Porter,	"	March 28, 1796
William Whitman,	"	March 25, 1805
Jeremiah Brown,	"	March 31, 1817
Isaac Spencer, Jr.,	"	March 25, 1822
William Connor,	"	March 29, 1824
Henry Francis,	"	April 19, 1841
Henry H. Fitch,	"	April 14, 1856
Henry Francis,	"	April 13, 1857
Levi Woodhouse,	"	April 9, 1860
Edward Wadsworth,*	"	April 11, 1864
George S. Burnham,†	"	April 21, 1864
John K. Williams,†	"	July 18, 1864
Levi Woodhouse,	"	April 9, 1866
Gurdon Robins,	"	April 1, 1872
Henry K. Barber,	"	April 7, 1873
John E. Higgins,	"	April 6, 1874
Levi Hotchkiss,	"	April 5, 1880
John E. Higgins,	"	April 4, 1881
Henry F. Smith,	"	April 2, 1894

* Declined. † Elected by the Common Council.

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MAYOR'S ANNUAL MESSAGE

TO THE

COURT OF COMMON COUNCIL

Delivered in Joint Convention, Monday Evening, April 14, 1913.

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ANNUAL MESSAGE

To the Honorable Court of Common Council, Hartford, Connecticut:

In compliance with the requirements of the City Charter, I present for your information a statement of the condition of our municipal affairs, together with such recommendations as the various situations seem to warrant.

FINANCES.

The financial condition of the city during the past fiscal year can best be expressed in a condensation of the City Treasurer's report, as follows:

Receipts.

Balance from old account, April 1, 1912	$ 52,003 14
Temporary Loans	355,000 00
Current Receipts	2,279,464 03
Gross Receipts	$2,686,467 17

Disbursements.

Temporary Loans	$ 355,000 00
Current Expenditures	2,078,980 95
Minor Permanent Improvements	76,418 93
Advanced from Current Funds for Municipal Bldg.	154,952 25
Gross Disbursements	$2,665,352 13
Balance on hand at close of year	21,115 04
Total	$2,686,467 17

The apparent balance of cash on hand at the close of the year is $21,115.04. To this should be added the sum of $154,952.25. which has been advanced from current funds for

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the Municipal Building. Eventually this sum will revert to the city's treasury by the issue of bonds, thus showing that the city had available funds amounting to $176,067.29 at the close of the year.

It is quite probable that, with careful management, the city will be able to pay for all of the recently authorized minor permanent improvements without borrowing. In this connection, it is gratifying to state that since February 27, 1904, it has not been necessary for the city to borrow funds for this class of improvements.

CITY DEBT.

Net Debt, April 1, 1912	$4,161,255 00
Net Debt, April 1, 1913	4,041,854 00
Reduction	$119,401 00

This decrease of net indebtedness is due to a corresponding increase in the city's Sinking Fund.

NEW INDEBTEDNESS.

It has been necessary to borrow funds towards the close of each of the past three fiscal years, in order to reimburse the city's treasury for funds advanced for the purchase of the site for the new High School and the new Municipal Building. These temporary loans are paid out of tax receipts due upon the July following their issue.

Attention is called to a communication from the Board of Finance, dated December 9, 1912, which says:

"The very favorable terms upon which these loans were made and the fact that the city was able to carry these expenditures nearly six months of each year has resulted in a considerable saving of interest charges. While it has been possible and advantageous for the city to pursue this course, we do not deem it advisable to continue much longer the permanent indebtedness of the city in the form of temporary loans."

During the present fiscal year it will be necessary to issue bonds amounting to $1,570,000.00 for the Municipal Building

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and $650,000.00 for the High School Building. It will also be necessary to issue bonds for a portion of the $2,000,000.00 for the installation of the Nepaug reservoir system.

I renew the suggestion made in my previous message concerning serial bonds and recommend that this form of bonds be considered by the proper authorities.

BOARD OF FINANCE.

It is estimated by the Board of Finance, on a 21½ mill-tax basis, that the receipts for the year will amount to $2,970,-259.88 and appropriations have been made for a like sum, including a contingent fund of $32,839.32. It has been found necessary to raise the tax rate three-quarters of a mill for city expenses. The attention of the taxpayers is respectfully directed to the report of the Board, showing exactly the cause of the proposed increase. In this connection I desire to state that the expenditure of the taxpayers' money is a serious business problem and that, in a community like Hartford, politics should not enter therein.

The Board has recommended a tax of one mill to meet State and County taxes. This is a wise precaution, for although the actual taxes have not yet been laid, they undoubtedly will be.

Under the "Equalization Act," it has been necessary to provide for a tax of five mills instead of a one mill tax, as formerly. This matter was approved at a City Meeting held April 4, 1911. This being the first year of the operation of the Act, I have not the means at present to determine its advantages or disadvantages. The law can be repealed, if desired. The present law prevents the city's voting on consolidation for three years.

SINKING FUND.

I transmit herewith the annual report of the Connecticut Trust & Safe Deposit Company, agents for the Hartford City Sinking Fund, to which I respectfully direct your attention.

The par value of the securities held in this fund amounts to $741.000.00; the cash on hand is $627.00, making a total of $741.627.00, an increase of $119,401.00 during the year. The

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amount paid into the Sinking Fund increases each year with the growth of the grand list. The close investment of its income and constant re-investment of matured securities show the efficient management of this important trust.

PERSONAL TAX DEPARTMENT.

At the beginning of my administration there was a good deal of doubt in the minds of many citizens of Hartford, as to the practical workings of the new system of personal tax collection which was installed. I am therefore pleased at this time to announce the unqualified success of the new method.

The personal tax collectors have collected $45,508.00 on the 1912 tax list, and $4,848.00 on the 1910 and 1911 lists. The total amount of their collections, $50,356.00, will probably be augmented by about $5,000 during the balance of the fiscal year.

The last report of the personal tax collections, when that work was under the City Collector's Department, shows that the collections on the 1911 tax list amounted to $39,848, which includes the collections of the entire twelve months. So it can be seen that under the new system the increase in collections will be approximately $15,000.00 more than last year—which is truly a telling argument in favor of the new system.

My reasons for taking it out of the hands of the City Collector's Department were two: First, The personal tax collectors were appointed to serve also as canvassers, resulting in a better list, although far from perfect; and second, the Collector's Department had already a sufficient burden upon it during its busy season. Further, the location of the City Collector's office is not as good as the present collection office in the City Hall, which is more central, and which provides shelter for the long lines of taxpayers from the vagaries of the weather.

STREET DEPARTMENT.

On June 1 of this year the city's contract for the collection of garbage and ashes expires, and the Street Department is now laying plans to do the work itself, instead of having it done by a contracting firm, as heretofore. The equipment and estimated cost of the work, when undertaken by the city, is estimated at

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$57.500. This is an advance of $22,500.00 over last year's cost, but the better service that will result will probably recompense the citizens for the increase. The collections are to be made entirely by city employees and the garbage removed to farms outside of Hartford. If this arrangement does not work satisfactorily, then the garbage will have to be buried in an outlying section of the city and the expense thereby materially increased. Eventually the city will have to acquire a reduction plant.

Many charter amendments, making the conduct of the city's business more efficacious, especially in the layout and construction of public improvements, are now before the General Assembly, and I look to see favorable action on all.

I am glad to be able to report the cleaning up of Park River. The greater part of the river banks were widened and riprapped; the dam at former Daniels' Mill was removed on the Wells Street side, and the sluice-ways closed up. The old buildings on the Elm Street side were levelled to the ground and the cellar excavations filled in. The work of improvement will be continued during the new fiscal year.

Your Honorable Body voted during the year to authorize improved lighting facilities on certain streets in the business section of the city. The Board of Street Commissioners thought that the expense should in part be borne by those especially benefitted, and I agree with this opinion. Your Honorable Body, however, decided that the entire expense should be borne by the city, and it is likely that the new lighting will make its appearance in the late summer of this year.

FIRE DEPARTMENT.

I regret to say that greater need of the city's resources along other lines has caused the postponement of two of our Fire Department's plans for the betterment of the service, viz., a new fire alarm system and headquarters, costing $200,000, and the complete motorization of the department, costing approximately $150,000. There is no doubt in my mind as to the desirability of both these improvements, and the recent action of the voters in approving the appropriation of $60,000 for Fire

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Department purposes tends to show the opinion of the people on the matter of the new headquarters. Hartford has been fortunate inasmuch as there has been no second alarm fire within her limits the past year, but you will agree that suitable preparation should be made to meet any emergency that could arise in a city of this size. Hartford's motor-driven fire apparatus proved its superiority over the horse-drawn apparatus to the utmost satisfaction during the year, and I again reiterate my belief that complete motorization should come as soon as the city can afford it.

The report of our Fire Department is very comprehensive, and I wish to commend its ideas on the so-called "mutual aid scheme." Hartford was called upon six times during the year to help out neighboring towns. But what help could these towns give if Hartford ever needed it? Let me quote a solution suggested in the report:

"Suppose other communities (such as West Hartford, New Britain, Plainville, and Bristol to the west, Windsor, Windsor Locks, and Thompsonville to the north, East Hartford, South Manchester, and Rockville to the east, Wethersfield, Middletown and Meriden to the south, could reach an agreement that in future purchases of fire apparatus each would get one or more motor pumps, the number to vary according to the population, or according to the square miles to be covered, or according to any other ratio that might be agreed upon. The larger communities would naturally be the first ones to get the motor pumps, each thereby strengthening its own fire service and becoming a central fire station for the smaller communities surrounding it. Gradually the others, first one and then another, would acquire machines, until in time there might be eight or ten such pumps scattered only a few miles apart along a line from Thompsonville to Meriden and along a similar line from Rockville to Bristol. Any fire-stricken community within the district could get its first help within ten or fifteen minutes and as much more as necessary at short intervals thereafter."

I agree with the Fire Department that this kind of a mutual aid scheme would greatly lessen the fire danger for both large and small communities, and I suggest that Hartford—as the

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largest community of those concerned—take the initiative in putting the scheme into actual operation.

The recommendations of the Fire Commissioners in reference to insurance rates should be carefully considered by your Honorable Body, and also the statement of what is needed to put the department in first class shape throughout. The total expense of so doing is estimated at $400,000 net. This includes motorizing, a new headquarters, a new central office fire alarm system, replacing with new stations five old, inadequate houses, expanding from four to at least six companies the hook and ladder branch of the fire service (which the commissioners very plainly say is the weak part of the department) and replacing certain old equipment with more serviceable apparatus. I believe that a systematic plan, as much in detail as possible, should be formulated by the Fire Commissioners, providing for carrying out these various ideas as rapidly as possible with due regard to a comparatively equal expenditure annually, and that with a comprehensive plan looking to the reduction of the cost of operation yet increasing the efficiency of the fire service, and looking especially toward combatting fires in their beginnings should have your careful attention .

A fire department can reach a limit of efficiency, however, and yet disastrous fires will occur. I believe, therefore, that another principle should be investigated—that of fire hazards and fire prevention. Substantially in building operations is what is most needed, and I would suggest a greater co-operation between the Fire Department and the Building Inspector's Office. I would also suggest that the Board of Fire Commissioners give more thorough study to the matter of fire prevention and the education of the public in such matters as will tend to cut down the number of and injury by fires.

I would suggest the enactment of a special ordinance concerning the inspection of premises by the Fire Department, and would also advance the inspection system such as is used, for instance, by Cincinnati, O. The system there is to have one or two members of each company detailed each day to inspect in proper order the buildings within the hydrant district of such company, and report the same in writing, upon proper forms, to

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the officer in charge. To quote from a letter written me by D. F. Cash, Cincinnati's Director of Public Safety, that city has "found the system very beneficial from several points of view, not only in reducing the number of fires, but the inspection work educates and familiarizes the men with the classes of construction and the particular buildings in which they may be called upon to do fire service."

HEALTH AND CHARITY DEPARTMENTS.

In two particular phases the work of the Charity and Health Departments are closely related, so I treat of them here together:

The situation in regard to the treatment of tubercular cases of the dependent poor calls for attention. Tuberculosis is no longer looked upon as an incurable disease. As this fact becomes more generally known, there is bound to be an even greater increase in the number of persons applying for treatment. At present these people are a menace to public health. It is right that they should be removed from the neighborhood where their very presence is dangerous, and I therefore advance at this time the problem of better and more extensive treatment for these unfortunates.

I am glad to be able to remark the approval of the people of Hartford of a resolution appropriating $100,000 for a public hospital to care for contagious disease cases. The work is to be pushed as rapidly as possible to a successful conclusion, so that the menace to the public health, presented by these cases under existing conditions, will soon be removed.

The general health of the city during the past year has been very satisfactory, the resident death rate decreasing to 14.7 per 1,000 as compared to 15.16 during 1911. The efforts towards reducing the infantile death rate are bearing fruit, and we should congratulate those who have had in charge the work of the Babies' Hospital particularly for their work in reducing the summer mortality of the children.

An opportunity was given the Board of Health to remedy unsanitary conditions in tenement, lodging and boarding houses by reason of power from the last General Assembly. I am glad

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to note that the opportunity was well taken care of by our inspectors, and a cleaner city has undoubtedly resulted.

Awaiting the action of your Honorable Body is an ordinance which will tend to improve the conditions governing the construction and maintenance of stables. So many of the insects and rodents breeding about stables are known to be potential carriers of contagious disease that it is imperative that the city use the power given by the Charter and enact regulations on this subject. I recommend, therefore, the immediate passage of the proposed ordinance.

I understand that there will be submitted during the new fiscal year, a proposed ordinance governing the matter of exposing fruits and other articles of food, on the streets or in stores, in such locations that make them subject to contamination by dust or insects. A large number of cities have ordinances governing this matter.

Your Honorable Body has turned over the matter of erecting public bathhouses to the Board of Health, and that Commission is now pushing the preliminary work, so that the houses may be built this summer.

It is interesting to note that the number of marriages in the city increased to 13.79 per 1,000 population, as compared with 9.85 per 1,000, the five-year average. The increase is due to the change in the Massachusetts law, which now requires a five-day notice before a license can be used. Hartford does not desire to be a Gretna Green for hasty marriages, but it has no other choice under the existing Connecticut laws. Perhaps a protest from the city on the subject might open the eyes of our General Assembly to the fact that the Connecticut marriage laws are considerably behind the times.

PARK DEPARTMENT.

Not by any means a small item in the management of our municipal household is our regulation of the great park system that has been developed in our city. The fact that in one day over 26,000 people visited a single park—I refer to Elizabeth Park on a June Sunday last year—should be sufficient proof of the popularity of our parks not only as what might be called

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city lungs for fresh air, but settings for healthful recreation. The park attendance for 1912 is estimated at 660,000, while the cost of maintenance of park properties and activities was a little over $50,000.

The present ideas of the utilization of park property are somewhat different from the old, and rightly so. No longer is the park considered a place for mere natural ornamentation. The parks are being made so attractive and so full of facilities for healthful recreation that they have become playgrounds for our boys and girls, and resting places for their elders.

The work of our Park Department is now being developed along these new lines. During the coming year the facilities and attractions in the parks will be materially increased. Family and neighborhood picnics will be provided for, and I am sure that the co-operation between the Park Department and the Juvenile Commission will tend to develop our child life along lines at present least looked after in our public schools.

The gift of General John P. Harbison of a playground and hall in the south part of the city seems to be the beginning of what may be a solution of the great problem of the social needs of our young people. This gift will provide for such needs as certainly exist beyond the reach of school, church and other associations.

WATER DEPARTMENT.

The total receipts of the Water Department for the fiscal year were $533,071.15. The total disbursements were: Construction, $206,070.05; maintenance, $149,179.51; sinking fund, $108,578.45; cash on hand, $69,243.14. The bonded debt of the Water Department is $475,000.00. During the year, the sinking fund netted the department $24,242.48. The par value of the bonds in the sinking fund is now $585,050, while the balance in the old sinking fund account is $108,578.45.

I quote from the report of the Water Department:

"Average conditions of rainfall cannot always prevail, and the time is now at hand when some additional supply is absolutely necessary to save the inhabitants of the City of Hartford from drinking the waters of the Connecticut River, which, under

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the best conditions, can be classed as little better than sterilized sewage."

Taking these facts into consideration, the Water Department has on foot a gigantic plan for an additional supply for Hartford.

"The plan," continues the report, "contemplates a collecting and storage reservoir in the Phelps Brook and Nepaug River Valleys near Collinsville; a compensating reservoir on the East Branch of the Farmington River in New Hartford; a pipe line connecting the proposed storage reservoir with the present reservoir system in West Hartford; a slow sand filtration plant to treat all the water passing to the city and a large size main pipe line running easterly from the filter plant and entering Hartford in the northerly part of the city."

The drainage area tributary to the Nepaug River and Phelps Brook, above the dam site, is about 32 square miles. This watershed, it is estimated, could be depended upon for a supply of 30,800,000 gallons a day. The Nepaug reservoir when completed will have an area of 851 acres and an available capacity of 8,250,000,000 gallons. This is nearly four times the total amount of storage in the reservoirs at West Hartford. To construct the Nepaug reservoir it is necessary to construct two dams of considerable size to close the gorges in which run the present streams, and to construct a dike along a low saddle in the dividing ridge between the Nepaug and Farmington River basins.

Actual construction work on the additional water supply was begun last December, following the award of a contract for the construction of the Talcott Mountain tunnel and concrete conduit. Almost 10,000 yards of earth and 300 yards of rock have been removed already, and it is expected that further work on securing the contemplated additional supply will be pushed this year.

The Board of Water Commissioners has unfortunately been unable to elect a president, and undoubtedly the commissioners took a wise action in voting that the Chief Engineer be placed in charge of all work pending the election of a president. I believe that the Chief Engineer should be at the head of the

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Water Department at all times, subject to the general direction of the Board, and that the operations of this important department should be not subject to the political vacillations of appointive officers.

JUVENILE COMMISSION.

During the first month of my administration the Juvenile Commission secured power to lease private property for use as playgrounds for young children, and shortly afterwards six such playgrounds were established in the more congested sections of the city. The work along these lines is in conjunction with that of the Park and School Departments.

The Juvenile Commission has also instigated a thorough and conscientious investigation of child life in Hartford and will present its findings very soon. This work will lay the foundation for specific recommendations by the Juvenile Commission and the campaign of education and publicity that will accompany it as a part of the work of the Commission will undoubtedly bring results. The co-operation of the public is, above all else, necessary in this matter.

SCHOOLS.

In five years the registration of our schools has gained 3,100 and now stands at 23,547. The gain this past year was 889. The increase has called for incessant attention to the problem of creating more room, and even now three school districts are considering additional buildings. The need of additional facilities for the High School is common knowledge but these conditions should be relieved within two years at least, as the High School Building Commission is about ready to begin actual construction. The evening school system is doing an extensive work industrially and in assimilating the foreigners to our customs and language. The outdoor schools and playgrounds, also maintained by the School Visitors in connection with the Society for the Prevention of Tuberculosis, and various city departments, have done invaluable service. Excluding the cost of liquidation, refunding operations, and new school buildings, our schools cost $703,153 the last school year. $402,771 of this was for teachers' salaries.

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There is a movement under way to provide special schools for children unfitted intellectually to get very much out of the ordinary school, and this is a phase of school work to which the people can worthily give their attention.

CEMETERIES.

The natural increase in the number of burials has opened up a serious situation in this phase of our Park Department activities. Additional lands for cemetery purposes will be needed before many years. It seems to me wise that property for a new cemetery should be purchased near Hartford soon. The purchase of such property within the present city limits would undoubtedly mean a greater expense and might call forth considerable objection from the neighborhood of the proposed purchase.

COMMISSION ON THE CITY PLAN.

Although engaged mainly in the transaction of routine work—the development of land tracts in various parts of the city—during the past year, the Commission on the City Plan has also taken up two other projects of great importance. One was the proposition to purchase the Connectictu Boulevard property and the other was the house of comfort problem.

The failure of the city to approve the appropriation of $500,000 for the purchase of the Connecticut Boulevard property makes it improbable that the city will again have the opportunity to obtain this large tract of land. It is not for me to question the judgment of the people when expressed by public vote, but I am of the opinion that the decision was largely influenced by the condition of the city's finances. I believe, however, that future generations will greatly regret and will blame this generation, if the city does not obtain so much of this land as lies on the river front, between the Boulevard and the river, from State Street to the Bridge. I suggest that such action be taken as will enable the city to obtain this land, as it is the only river-front tract available.

By courtesy of the Bridge Commission we were able to install a Hucksters' Market on part of its property last summer.

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When the Commission sees fit to dispose of the land, I do not know where the Hucksters' Market can be placed. I open up this subject also for your consideration.

The government has withdrawn its objection to having the house of comfort on the east side of City Hall, and the Commission is now completing plans and specifications.

Among the problems to which I commend the attention of the Commission are these: The matter of limiting the heights of buildings, the arrangement of interior blocks, the regulation of rear tenements, the abatement of the smoke nuisance and the improvement of transit facilities.

The modern view taken in most municipalities is that improvement should be sought and perfection aimed at—along all lines of municipal progress—in order that the city may reap a financial benefit from such progress. This view, in my opinion, is a mistaken one, unless it is considered merely as incidental. These progressive movements should be because it is *right* that they should be! It merely so happens that the city that marches fastest along the highways of progress reaps rewards, it would seem, in the line of new industries, increased population and consequent financial return. But this harvest is merely coincident with the operation of the theory that progress should be made because progress is right.

BUILDING OPERATIONS.

The year ending March 31 ,1913, was a banner one in the line of new building operations in the city. The building inspector's office isued 1,277 permits, calling for building operations that would cost $7,379,525.00. New buildings erected during the year include 205 tenement houses and 229 dwelling houses, or 1,452 new homes. The statistics for the past five years follow:

Year.	Permits Issued.	Estimated Cost.
1908	676	$3,107,348
1909	863	3,440,925
1910	1053	4,541,979
1911	1305	5,896,244
1912	1277	7,379,525

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A committee of the Court of Common Council is at present working on a revision of the city's building code, which is badly needed.

SEWERS.

The work of the Engineering Department in bettering sewer conditions on the East side, tending to overcome the disagreeable features incident to residence and the transaction of business in that section of the city, is to be highly commended. During the year the contract for the East side intercepting sewer was executed, and the sewage pumping station will be completed in the very near future, insuring to all territory north of State Street freedom from damage by Connecticut River freshets. I believe that these flood protection measures should be continued, as the City Engineer suggests, by extending the dyke now formed by the Connecticut Boulevard, across State Street and southerly on Commerce Street to the Park River. Such a measure, though undoubtedly of great cost, will result in better sanitary conditions, an increased realty valuation, and additions to the grand list.

At the last City Meeting, the people approved appropriations of $35,000 for the proposed Maple Avenue sewer system and $17,000 for a Homestead Avenue system. Because of more pressing measures, the Board of Finance reported adversely on the matter of covering Gully Brook, at a cost of $110,000, although it was of the opinion that the project was a worthy one. The rejection, therefore, amounts merely to a postponement of the matter, which should be carried through in the near future. Better sewerage facilities are also needed in the section west of Blue Hills Avenue and north of Tower Avenue, and the need will become greater as this section of the city is developed.

GRADE CROSSINGS.

The resolution instructing the Corporation Counsel to petition the Public Utilities Commission for alterations in the existing highway crossings of the tracks of the N. Y., N. H. & H. R. R. Co., in the southern and western parts of the city, was due to some misunderstanding—referred to the Board of Fi-

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ance. Looking upon it from a financial point of view, the Board of Finance reported that because of the greater need of the city's resources along other lines, it withheld its approval. Realizing that it would be years before the city would be called upon to bear its share of the expense, your Honorable Body then passed the resolution. The matter is now before the Public Utilities Commission and there is to be a hearing on the subject, Wednesday, April 23, 1913.

Plans for the elimination of the group of crossings at Windsor Street are at a standstill, but will be pushed as soon as definite action is assured in regard to the crossings above mentioned. I would like to reiterate my opinion that these grade crossings are deadly and the matter of their elimination should be pushed as rapidly as possible.

CITY SEALER.

The department of the City Sealer is badly in need of a set of revised regulations and ordinances governing its duties and powers. The State Government has recently created the office of State Sealer, and the latter will undoubtedly very soon endeavor to bring about a reconstruction of and an uniformity in the offices of the City Sealers throughout the State. Our City Sealer's Department has suffered because of inadequate office room.

VICE COMMISSION.

No more important or serious municipal work has been done in the interest of the city in the past year than that performed by the Vice Commission. I am informed that it has confined its efforts to careful and painstaking investigation without sensational publicity, and that its first report, which is in preparation, will soon be presented.

THE NEED OF A PUBLIC MARKET.

I am still of the opinion that the city should have a public market. Your committee, appointed to investigate the advisability of such an institution—following recommendations made in my last message—has decided that the city's resources are

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more needed along other lines, a decision with which I concur. I believe, however, that the city should establish a terminal market, for the wholesale receipt and distribution of all kinds of food products, and with a retail department in connection. It is right that the city should provide the best facilities for the most economical transaction of such business between consumer and producer.

Not only is the food supply itself important, but the source from which it comes. At present, a very large proportion of our food supply is from outside the State. I believe that successful public markets—retail, wholesale, terminal and hucksters'—with produce commission houses, would lead to increased cultivation of the fertile valley in which Hartford is situated. I ask for this question the serious consideration of your Honorable Body.

CARE OF PUBLIC BUILDINGS.

I would like to reiterate at this time the sentiments of my message to your Honorable Body, dated February 24, 1913, giving my opinion that "it would be very much better for the city's interests if all municipal buildings not now under the direct charge of a permanently-organized commission—notably the City Hall, the Municipal Building (when completed) and the Halls of Record—were placed under charge of a permanently-organized commission or department." Your city buildings committee changes in personnel from year to year, and it is not right to place upon its shoulders such great responsibilities without making allowances for possible shortcomings due to inexperience and lack of time in which to take up the work. I therefore present again for your consideration the matter of (1) the creation of a special commission, or (2) the securing of the power, by charter amendment, from the General Assembly, to direct the Board of Park Commissioners to take up the work. Placing the charge in some particular department would obviate the present difficulty in finding the proper authorities in charge of the buildings, for your city buildings committee has neither office nor office hours.

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INCREASED FREIGHT FACILITIES.

I take great pleasure in recording the fact that there will soon be placed in commission in the southwest part of the city a new freight sub-station, which will fill a want long-felt by the manufacturers of that section. The new facilities will also relieve the present congestion at the main station, and relieve the streets from much trucking at their most crowded points. The city is greatly indebted to Mr. Mellen, of the N. Y., N. H. & H .R. R. Co., for his prompt action in granting our request for this new freight station.

MUNICIPAL BUILDING.

By a decision of the voters of the city, the extension to the Municipal Building was authorized in April, 1912. Work on the new Municipal Building has been pushed as rapidly as possible during the past year. According to contract, the Main Street pavilion will be completed January 1, 1914, and the extension by December 1, 1914. The contracts for the Extension, signed February 15, 1913, were made to conform with the plans of the Main Street pavilion, as directed by the commission as it existed under the previous administration.

COMMISSION GOVERNMENT.

I have spent much time during the past year in looking into the commission form of government, which, as I said in my previous message, I thought might facilitate and make more economical the government of the city. But the problems are so many and great, and commission government still so experimental that no two cities have the same form thereof, that I think Hartford should investigate very carefully and work gradually along this line, rather than take any radical steps at one time.

PURCHASING AGENT.

I would also recommend that your Honorable Body give further attention to the matter of a purchasing agent, whose duties shall be the investigation of prices of supplies for the various departments and their purchase in the most economical manner. The idea has, I believe, been advanced before, and dis-

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carded because it was thought that the salary of such an office would offset the saving to the city. I cannot agree with that opinion. I suggest, however, that the duties might be added to those of some present city official or department with perhaps a slight increase in salary, thus doing away with the necessity of creating another salaried office.

THE MERIT SYSTEM.

In my last annual message I drew the attention of your Honorable Body to the advisability of the installation of the Merit System as regards the appointment of certain subordinate employees of the City, according to the special act passed by the General Assembly in 1909 and revised in 1911. I have heard nothing more of the recommendation since that time, so reiterate it herewith. For some reason or other, Connecticut is years behind other States in the actual practice of the Civil Service. Under the present system, in many cities, great opportunity is given by the so-called spoils system for the man who makes the appointment to use the appointee for personal or private political ends not always consistent with the city's welfare. I believe that the law is desirable for any city employing a body of thirty or forty appointed officials and other appointees who are not heads of departments. Perhaps at present Hartford is too small a city to present a scene for the Merit System to work properly, but the city is rapidly growing and it is time that some move be made to take all subordinate appointive positions out of politics.

GREATER EFFICIENCY.

All business organizations are constantly on the lookout for means wherewith to improve their efficiency and reduce the cost of production. They obtain outside experts, who investigate the methods of doing business, and make suggestions for improvement. The affairs of Hartford form a big business proposition, and I believe that the city can well look into the matter of getting expert advice on the manner in which our business is being done and how it might be done. I therefore suggest that a committee be appointed to consider the advisability of revising the business systems in our departments.

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MISCELLANEOUS.

There are now several matters before the legislature affecting the powers of the City of Hartford, and I hope to see favorable consideration on all.

Hartford is fortunate inasmuch as there are not within her borders any of the common type of dance halls, that is, places where dancing is a sort of adjunct to a barroom. The subject of the new styles in dancing and their possible effects upon the city's morals should, however, be investigated by your Honorable Body with an idea towards correcting or heading off, by ordinance, conditions that might tend to lower the morals of the city. Whereas up to the present time nothing detrimental to the general morality of the city along these lines has come to my attention, nevertheless, I think it is a contingency against which we should safeguard ourselves.

I would also recommend that the matter of issuing bill board and bill posters licenses, and of issuing auctioneers licenses be taken from the jurisdiction of the Mayor's Department and put under the Police Department, which now handles the matter of issuing licenses of a more or less similar nature.

I would recommend that the Board of Street Commissioners innvestigate the matter of the collection of grease from sewers, and its reduction for commercial profits. This matter has resulted in a good income for several cities that have tried it, besides largely reducing the pollution of the rivers.

It seems to me with all the business transacted in this city, which is growing so rapidly, that it might be well for our local newspapers to comment more at length on business under consideration by the Court of Common Council, in order that the public might be fully informed as to the advantages or disadvantages that would result from such legislation. I refer, for instance, to the proposed charter amendments which were introduced into the Legislature. It seems to me that a public expression of opinion would have great weight in the passage or rejection of those bills, and our Court of Common Council and city officials would have been guided to a large extent by that opinion.

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CONCLUSION.

I have endeavored to give as briefly as I can a resume of the important activities of the various departments during the past year, with an idea of the work that either is or well might be, in my opinion, taken up during the fiscal year we have just started. For additional report of work done, of plans laid, and of recommendations submitted, I would respectfully refer you to the reports of the various city departments and commend thereto your most earnest attention.

Respectfully submitted,

LOUIS R. CHENEY,
Mayor.

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REPORTS

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REPORT

OF THE

CITY COLLECTOR

For the Years 1912 and 1913

In Accordance with Resolutions Passed
September 12 and 26, 1898.

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CITY COLLECTOR'S ANNUAL REPORT.

To October 1, 1912.

In accordance with Resolutions passed September 12 and 26, 1898.

To the Honorable Court of Common Council of the City of Hartford:

GENTLEMEN: — Herewith I submit my report of the uncollected taxes due on all lists, as per report of the City Controller, to October 1, 1912.

Due Oct. 1st, 1912, on list of 1904,	$16.20	
Estimated legal additions to above,	7.05	$23.25
Due Oct. 1st, 1912, on list of 1905,	23.43	
Estimated legal additions to above,	8.79	32.22
Due Oct. 1st, 1912, on list of 1906,	27.21	
Estimated legal additions to above,	8.57	35.78
Due Oct. 1st, 1912, on list of 1907,	1,177.85	
Estimated legal additions to above,	300.35	1,478.20
Due Oct. 1st, 1912, on list of 1908,	3,087.32	
Estimated legal additions to above,	597.03	3,684.35
Due Oct. 1st, 1912, on list of 1909,	8,387.95	
Estimated legal additions to above,	1,132.37	9,520.32
Due Oct 1st, 1912, on list of 1910,	17,872.01	
Estimated legal additions to above,	1,340.40	19,212.41
Due Oct. 1st, 1912, on list of 1911,	132,790.36	
Estimated legal additions to above,	1,991.85	134,782.21
Uncollected on all lists to date,	163,382.33	
Estimated legal additions on all lists to date,	5,386.41	168,768.74

The taxes due on the above report on the lists of 1904-1907, inclusive, are in the hands of the Corporation Counsel.

Respectfully submitted,

OTIS J. HART,
Collector.

Copy of the Certificate of the City Controller, October 16, 1912.

This certifies that I have examined the accounts of Otis J. Hart, Collector, and compared them with the Rate Books on the lists of 1904, 1905, 1906, 1907, 1908, 1909, 1910, and 1911, and find the same to be correct.

CHARLES H. ROBINS, *City Controller.*

HARTFORD, CONN., October 16, 1912.

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CITY COLLECTOR'S ANNUAL REPORT.

To October 1st, 1913.

In accordance with Resolutions passed September 12 and 26, 1898.

To the Honorable Court of Common Council of the City of Hartford:

GENTLEMEN: — Herewith I submit my report of the uncollected taxes due on all lists, as per report of the City Controller, to October 1, 1913.

Due Oct. 1st, 1913 on list of 1907,	$403.30	
Estimated legal additions to above,	127.04	$530.34
Due Oct. 1st, 1913, on list of 1908,	134.70	
Estimated legal additions to above,	34.35	169.05
Due Oct. 1st, 1913, on list of 1909,	1,308.62	
Estimated legal additions to above,	255.18	1,563.80
Due Oct. 1st, 1913, on list of 1910,	5,420.61	
Estimated legal additions to above,	731.78	6,152.39
Due Oct. 1st, 1913, on list of 1911,	15,135.69	
Estimated legal additions to above,	1,135.18	16,270.87
Due Oct. 1st, 1913, on list of 1912,	185,298.09	
Estimated legal additions to above,	2,779.47	188,077.56
Uncollected on all lists to date,	207,701.01	
Estimated legal additions to above,	5,063.00	212,764.01
School Equalization Tax,	55,988.14	
Estimated legal additions to above,	839.82	
	56,827.96	

Respectfully submitted,

OTIS J. HART,
Collector.

Copy of the Certificate of the City Controller, October 25, 1913.

This certifies that I have examined the accounts of Otis J. Hart, Collector, and compared them with the Rate Books on the lists of 1907, 1908, 1909, 1910, 1911 and 1912, and find the same to be correct.

CHARLES H. ROBINS, *City Controller.*

HARTFORD, CONN., October 25, 1913.

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REPORT

OF THE

Committee on Abatement of Taxes

To April 1, 1913

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REPORT OF THE COMMITTEE ON ABATEMENT OF TAXES.

HARTFORD, CONN., March 24, 1913.

To the Honorable Court of Common Council:

GENTLEMEN: — The Committee on Abatement of Taxes submits the following report of the abatements made from April 1, 1912, to April 1, 1913, viz:

Year.	City.	Sinking fund.
1907	$16.15	$0.95
1908	41.91	2.23
1909	305.53	17.91
1910	369.97	23.33
1911	2,625.75	73.33
	$3,359.31	$117.75

FRED J. BROWN,
THOMAS J. CREIGHTON,
DANIEL J. SULLIVAN,
Committee.

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ANNUAL REPORT

OF THE

CITY TREASURER

FOR THE

Fiscal Year Ending March 31, 1913

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REPORT.

CITY TREASURER'S OFFICE.

HARTFORD, CONN., April 1, 1913.

To the Honorable Louis R. Cheney, Mayor of the City of Hartford:

SIR:— In compliance with Section 28, Chapter 3, of the Charter of the City of Hartford, I have the honor to submit herewith a summary of the transactions of this office for the fiscal year ended March 31, 1913.

Respectfully,

CHARLES H. SLOCUM,

City Treasurer.

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CHARLES H. SLOCUM, CITY TREASURER, *in account*

RECEIPTS.

1912.			
April 1, Balance from old account,			$52,003.14
	DEPARTMENTS.		
City Taxes,		$1,400,932.60	
Personal Taxes, 1911 and 1912 Lists,		88,761.50	
Corporation Stock Taxes,		435,655.26	
National Bank Stock Tax,		2,805.38	
Street Railway Tax,		23,402.95	
County Commissioners,		70,209.17	
Water Commissioners, Interest on Water Bonds,		19,000.00	
Street:			
Street Sprinkling,	$29,961.00		
Street Cleaning,	7,752.84		
Paving Front, Grove and Sheldon Streets,	8,834.70		
Re-building sewers in Front, Windsor and Kilbourn Streets,	4,091.21		
Sundry Collections,	2,792.90	53,432.65	
Engineering,		51.46	
Fire,		355.20	
Police,		8,050.46	
Charity,		9,237.72	
Health,		2,194.85	
State Appropriation for Schools,		52,980.75	
State Appropriation for Evening Schools,		2,234.25	
Town Deposit Fund Income,		1,408.88	
High School Tuition Fees,		5,554.50	
School Visitors,		10.00	
Commission Collecting School Taxes,		1,939.80	
Legal and Claims,		736.64	
Police Court,		12,476.58	
City Court,		2,374.12	
Probate Court,		288.31	
Public Buildings,		2,970.96	
Public Dock Commission,		447.70	
Sealer of Weights and Measures,		187.74	$52,003.14
Forward,			$2,197,699.43

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with the CITY OF HARTFORD.

DISBURSEMENTS.

DEPARTMENTS.	
Street,	$465,867.56
Engineering,	28,335.50
Fire,	259,350.00
Police,	202,653.13
Charity,	132,878.39
Health,	26,622.43
Park,	80,500.00
Schools,	148,714.63
High School,	137,464.53
School Visitors,	65,718.76
Legal and Claims,	12,054.08
Police Court,	10,497.96
City Court,	7,100.79
Liquor Prosecutions,	202.86
Probate Court,	959.26
Common Council,	5,627.24
Miscellaneous,	2,374.00
Juvenile Commission,	822.60
City Plan Commission,	1,807.66
High School Building Commission,	172.45
Public Dock Commission,	1,912.50
Public Buildings,	8,912.80
Water,	11,465.67
Public Library,	21,000.00
Advertising,	7,000.00
Police Benefit Fund,	7,500.00
Firemen's Relief Fund,	8,000.00
Personal Tax,	7,169.20
Military Assessment,	18,541.47
Mayor,	4,738.21
Collector,	12,957.29
Treasurer,	7,651.91
Controller.	4,891.68
Foward,	$1,711,464.56

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CHARLES H. SLOCUM, CITY TREASURER, *in account*

RECEIPTS.

Forward,	$2,197,699.43	$52,003.14
Amusement Licenses,	1,910.00	
Interest on Deposits,	7,289.15	2,206,898.58
Sewers,	29,810.93	
Windsor Street Sewer,	3,715.24	
Street Improvements,	6,636.30	
Sidewalks,	4,431.30	
Street Paving,	1,808.60	
Assessment Liens and Interest,	991.24	47,393.61
Additional High School Site, Rents, Fire Insurance, etc.		18,002.04
Registration of Dogs,		7,168.80
Daniels Mill Dam,		1.00
Temporary Loans:		
Additional High School Site, Dated Dec. 19, 1912, Due Aug. 1, 1913,		100,000.00
Dated Dec. 30, 1912, Due Aug. 1, 1913,		100,000.00
Municipal Building Site, Dated Jan. 30, 1913, Due Aug. 1, 1913.		155,000.00
		$2,686,467.17

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with the CITY OF HARTFORD.

DISBURSEMENTS.

Forward,	$1,711,464.56	
City Clerk,	10,055.23	
Assessors,	12,616.51	
Registrars,	10,007.84	
Selectmen,	5,416.55	
Marshal,	565.00	
Building Inspector,	5,292.07	
Sealer of Weights and Measures,	3,344.37	
Connecticut River Bridge Maintenance,	12,471.49	
Interest,	184,623.56	$1,955,857.18
Sewers,	20,646.69	
Sidewalks,	6,081.26	
Street Improvements,	8,887.97	44,615.92
New Engine House No. 3,	461.22	
East Side Intercepting Sewer,	50,957.71	
Purchase of Kinsella and Smith Property,	15,000.00	
Grading Colt Park,	10,000.00	76,418.93
Municipal Building Site,		89.84
Municipal Building,		154,862.41
School Districts, Corporation Stock Taxes,		74,990.30
Registration of Dogs,		3,517.55
Temporary Loans:		
Additional High School Site, Dated Dec. 14, 1911, Matured Aug. 1, 1912		200,000.00
Municipal Building Site, Dated Dec. 14, 1911, Matured Aug. 1, 1912,		155,000.00
		$2,665,352.13
1913.		
March 31, Balance to New Account,		21,115.04
		$2,686,467.17

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CHARLES H. SLOCUM, CITY TREASURER, *in account*

TAX FUND — RECEIPTS.

1912.	
April 1, Balance from Old Account,	$17.56
City of Hartford:	
Annual Appropriation 1912-13, including Special Appropriations,	78,000.00
Extra Appropriations:	
Playground,	2,500.00
Grading — Colt Park,	10,000.00
Interest on Deposits,	527.74
	$91,045.30

BOND FUND — RECEIPTS.

1912.	
April 1, Balance from Old Account,	$3,678.85
Interest on Deposits,	73.21
	$3,752.06

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with the CITY OF HARTFORD — PARK DEPARTMENT.

TAX FUND — DISBURSEMENTS.

General expense, maintenance and improvements, including salaries, office expenses, etc.		$58,050.07

SPECIAL APPROPRIATION.

Colt Park:		
Little Folks' Playground,	$1,200.00	
Wading Pool,	415.00	
Flag-walk,	900.00	
Grading,	10,000.00	
Pope Park:		
Paths,	3,000.00	
Cement Walk,	3,420.00	
Outdoor Gymnasium,	300.00	
Girls' Gymnasium,	300.00	
Pavilion,	480.00	
Riverside Park:		
Speedway,	264.00	
Rocky Ridge Park,		
Improvements,	1,000.00	
Automobile,	776.80	
Additional Seats and Swings,	1,625.00	
Playgrounds,	2,500.00	26,180.80
		$84,230.87
Maintenance and Improvement of Public Cemeteries,		6,000.00
		90,230.87
1913. March 31, Balance to New Account,		814.43
		$91,045.30

BOND FUND — DISBURSEMENTS.

1913. March 31, Balance to New Account,	$3,752.06
	$3,752.06

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CHARLES H. SLOCUM, CITY TREASURER, *in account*

ELIZABETH PARK FUND — RECEIPTS.

1912.

April 1, Balance from Old Account,	$1,124.63
Interest on Deposits,	21.25
Dividend Hartford Exchange Co. Stock,	10.00
	$1,155.88

CEMETERY FUND — RECEIPTS, 1912-13.

Sale of Lots:		
Old North Cemetery,	$338.00	
Zion Hill Cemetery,	1,157.50	$1,495.50
Interest on Deposits,		318.96
		$1,814.46

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with the CITY OF HARTFORD, PARK DEPARTMENT — *Continued.*

ELIZABETH PARK FUND — DISBURSEMENTS.

1912.	
Veranda on Pavilion.	$450.00
Curling Rink, ...	100.00
1913.	
March 31, Balance to New Account, ...	605.88
	$1,155.88

INVENTORY ELIZABETH PARK FUND, APRIL 1, 1913.

25 Shares Hartford Exchange at $10.00, ...	250.00
Cash on Hand, ...	605.88
	$855.88

CEMETERY FUND — DISBURSEMENTS, 1912-13.

Deposited in Savings Banks, ...	$1,814.46
	$1,814.46

INVENTORY CEMETERY FUND, APRIL 1, 1913.

Deposited in Savings Banks as Follows:	
Society for Savings, ...	$2,965.70
Dime Savings Bank, ...	3,740.65
State Savings Bank, ...	3,118.48
	$9,824.83

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CHARLES H. SLOCUM, CITY TREASURER, *in account*

RECEIPTS.

City of Hartford:	
Annual Appropriation,	$7,500.00
Interest on Mortgage Loan,	800.00
Interest on Deposits,	501.56
Income from Dr. G. W. Russell's Reward Fund,	40.40
Chief of Police,	
Donation Received in Appreciation of Police Services,	25.00
Unclaimed Cash Found by Police Officer,	24.20
	$8,891.16

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with the POLICE BENEFIT FUND.

DISBURSEMENTS.

Orders drawn by President Board of Trustees:		
William F. Gunn,	$208.32	
James P. Carter,	540.00	
Michael Gaffey,	500.00	
Justin Goodwill,	500.00	
James Maloney,	593.13	
James F. Hennessey,	593.13	
James F. Noonan,	593.13	
George P. Harvey,	593.13	
William C. Steele,	345.94	
Charles F. Nichols,	63.38	
Charles A. Schiller,	50.37	
Cornelius Ryan,	823.95	
William F. Tobin,	305.32	
Thomas McCue,	305.32	$6,015.12
1913.		
March 31, Transferred to Principal Fund,		2,876.04
		$8,891.16

INVENTORY POLICE BENEFIT FUND, APRIL 1, 1913.

Real Estate Mortgage Loan, 5%,	$16,000.00	
Deposit Society for Savings,	8,430.16	
Deposit Dime Savings Bank,	4,221.67	
Deposit State Savings Bank,	1,000.00	
		$29,651.83

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CHARLES H. SLOCUM, CITY TREASURER, *in account*

RECEIPTS.

City of Hartford:	
Annual Appropriation, ...	$8,000.00
President Board of Trustees:	
Donations received, ...	280.00
Board of Fire Commissioners.	
Sale of old material, ...	1,200.65
Fire Department:	
Pay-roll assessments, ...	1,836.76
Interest on deposits, ...	1,144.45
	$12,461.86

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with the FIREMEN'S RELIEF FUND.

DISBURSEMENTS.

Orders drawn by President Board of Trustees:		
Henry J. Eaton,	$1,250.00	
Louis Krug,	1,041.66	
Edward C. Woodworth,	585.52	
Edward Sommerman,	600.00	
Warren A. Bingham,	600.00	
Willis P. Barker,	577.16	
Nathan F. Levee,	500.00	
Joseph W. McClellan,	500.00	
Hamlet P. Barber,	350.00	
Edwin H. Williams,	350.00	
Fred C. Krug,	300.00	
Robert Marchant,	300.00	
James S. Secor,	300.00	
George W. Staib,	300.00	
Seymour Clark,	200.00	
Charles C. Champlin,	200.00	
Dennis F. Cooney,	200.00	
Niles Estlow,	200.00	
Francis Fitzpatrick,	200.00	
Charles A. Gunn,	200.00	
Gordon B. Hale,	200.00	
Augustus A. Sommerman,	200.00	
Jason Wilson,	200.00	
Henry Harris,	25.00	$9,379.34
Rebates on assessments,	25.24	
Expense,	18.00	43.24
		$9,422.58
1913.		
March 31, Transferred to Principal Fund,		3,039.28
		$12,461.86

INVENTORY FIREMEN'S RELIEF FUND, APRIL 1, 1913.

Deposited in Savings Banks as follows:	
Society for Savings,	$3,294.46
State Savings Bank,	4,577.11
Mechanics Savings Bank,	4,869.21
Dime Savings Bank,	4,609.30
Farmington Savings Bank,	4,596.33
Savings Bank of Rockville,	3,631.17
Savings Bank of New Britain,	4,421,96
	$29,999.54

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CHARLES H. SLOCUM, CITY TREASURER, *in account*

RECEIPTS, 1912-13.

American National Bank (in liquidation):	
128 Shares at 87.07	$11,144.96
Dividends on Bank Stocks, ...	2,697.00
	$13,841.96

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with the NILES CHARITY FUND, *the* CITY OF HARTFORD, *Trustee.*

DISBURSEMENTS, 1912-13.

Purchase of Bank Stock,	$10,769.50
Charitable Society in Hartford,	1,511.23
Widows' Society of Hartford,	1,511.23
Miscellaneous,	50.00
	$13,841.96

INVENTORY NILES CHARITY FUND, APRIL 1, 1913.

35	Shares Ætna National Bank,	$3,500.00
33	Shares Charter Oak National Bank,	3,300.00
12	Shares City Bank of Hartford,	1,200.00
184	Shares National Exchange Bank,	9,200.00
88	Shares First National Bank,	8,800.00
40	Shares Hartford National Bank,	4,000.00
100	Shares Phoenix National Bank,	10,000.00
		$40,000.00

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CHARLES H. SLOCUM, CITY TREASURER, *in account*

RECEIPTS, 1912-13.

Mrs. E. T. Smith, bequest,	$500.00
Income from investment to March 31, 1913,	1,814.83
	$2,314.83

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with the LARRABEE FUND, *the* CITY OF HARTFORD, *Trustee.*

DISBURSEMENTS, 1912-13.

Deposit, Dime Savings Bank,	$500.00
Larrabee Fund Association,	1,813.53
Probate Fees,	1.30
	$2,314.83

INVENTORY LARRABEE FUND, APRIL 1, 1913.

Real Estate Mortgage Loans,	$19,500.00
60 Shares Phoenix National Bank,	6,000.00
11 Shares Hartford National Bank,	1,100.00
Deposit Society for Savings,	2,745.43
Deposit Dime Savings Bank,	500.00
Chicago & Western Indiana Railroad Bonds,	5,000.00
	$34,845.43

The following bequests and donations, as special funds, are included in above investments.

Sarah Morgan Fund,	$5,000.00
Samuel Tuttle Fund,	1,039.94
Mary Cawley Fund,	500.00
Mary Gaylord Danforth Fund,	1,500.00
Mary F. Stoddard Fund,	1,973.00
Louise M. Sheldon Fund	4,880.97
Olive G. Williams Fund,	500.00
Mrs. E. T. Smith Fund,	500.00

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JOHN RUSS BURROW'S LEGACY.

The income, amounting to Forty 40-100 Dollars, has been paid to the Superintendent of Charities, according to the Will of the Testator.

Amount of legacy, One Thousand Dollars, deposited in the Society for Savings.

DR. GURDON W. RUSSELL'S REWARD FUND.

The income, amounting to Forty 40-100 Dollars, has been paid to the Police Benefit Fund of the City of Hartford, under direction of the Board of Police Commissioners

Amount of fund, One Thousand Dollars, deposited in the Society for Savings.

TOWN DEPOSIT FUND.

The income, amounting to Fourteen Hundred Eight 88-100 Dollars, has been paid into the City Treasury according to law.

Amount of Fund, Twenty-three Thousand Four Hundred Eighty-one 43-100 Dollars, invested in Town of Hartford note.

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RECAPITULATION OF CEMETERY TRUST FUNDS FOR CARE OF BURIAL LOTS.

1912.	RECEIPTS.	
April 1, Balance from Old Account,	$145.57	
Interest on Deposits in Savings Banks,	276.77	$422.34
	DISBURSEMENTS.	
Board of Park Commissioners for Care of Burial Lots, as follows:		
Thomas Day,	$10.00	
Martha W. Brown,	2.00	
J. Henry Martin,	5.00	
Elizabeth H. Colt,	3.50	
Richard Seymour,	3.00	
J. W. Giddings,	5.00	
Louise M. Sheldon,	2.00	
Charles Shepard,	9.50	
Margaret M. Case,	1.25	
Charles W. Cook,	1.50	
Eliza Cowles,	2.86	
Henry Affleck,	4.79	
Helen M. Denslow,	3.82	
Alexander Stupert,	2.00	
	$56.22	
1913.		
March 31 Balance to New Account,	366.12	$422.34

INVENTORY CEMETERY TRUST FUNDS, APRIL 1, 1913.

Thomas Day,	$400.00
Martha W. Brown,	200.00
J. Henry Martin,	200.00
Elizabeth H. Colt,	250.00
Richard Seymour,	200.00
J. W. Giddings,	150.00
Louise M. Sheldon,	200.00
Charles Shepard,	200.00
Margaret M. Case,	47.10
Charles W. Cook,	125.00
Eliza Cowles,	40.00
Henry Affleck,	95.00
Elihu Denslow,	95.00
Alexander Stupert,	200.00
Oliver Shepard,	50.00
Mary A. Dougherty,	300.00
Pease-Cook,	150.00
Joseph Sheldon,	75.00
Henry Sheldon, et al.,	100.00
Laura S. Stowell,	400.00
William L. Bigelow,	500.00
Deposited in Savings Banks,	$3,977.10

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APPROPRIATION REPORT FOR YEAR ENDED MARCH 31, 1913.

Departments.	Appropriations.	Expended.	Unexpended.
Street,	$486,523.33	$465,867.56	$20,655.77
Engineering,	28,600.00	28,335.50	264.50
Fire,	259,350.00	259,350.00	
Police,	208,787.81	202,653.13	6,134.68
Charity,	133,000.00	132,878.39	121.61
Health,	26,675.67	26,622.43	53.24
Park,	80,500.00	80,500.00	
Schools,	150,733.88	148,714.63	2,019.25
High School,	138,000.00	137,464.53	535.47
School Visitors,	66,550.00	65,718.76	831.24
Legal and Claims,	12,500.00	12,054.08	445.92
Police Court,	10,500.00	10,497.96	2.04
City Court,	7,118.75	7,100.79	17.96
Liquor Prosecutions,	500.00	202.86	297.14
Probate Court,	1,000.00	959.26	40.74
Common Council,	6,380.00	5,627.24	752.76
Miscellaneous,	2,575.00	2,374.00	201.00
Juvenile Commission,	1,500.00	822.60	677.40
City Plan Commission,	2,000.00	1,807.66	192.34
Public Dock Commission,	2,062.50	1,912.50	150.00
High School Bldg. Commission	5,000.00	172.45	4,827.55
Public Buildings,	8,950.00	8,912.80	37.20
Public Bath,	200.00		200.00
Water,	13,100.00	11,465.67	1,634.33
Public Library,	21,000.00	21,000.00	
Advertising,	7,000.00	7,000.00	
Police Benefit Fund,	7,500.00	7,500.00	
Firemen's Relief Fund,	8,000.00	8,000.00	
Personal Tax,	7,169.63	7,169.20	.43
Military Assessment,	20,200.00	18,541.47	1,658.53
Mayor,	4,870.00	4,738.21	131.79
Collector,	13,023.47	12,957.29	66.18
Treasurer,	7,720.00	7,651.91	68.09
Controller,	5,020.00	4,891.68	128.32
City Clerk,	11,800.00	10,055.23	1,744.77
Assessors,	12,710.00	12,616.51	93.49
Registrars,	10,020.00	10,007.84	12.16
Selectmen,	5,416.55	5,416.55	
Marshal,	565.00	565.00	
Building Inspector,	5,320.00	5,292.07	27.93
Sealer,	3,490.00	3,344.37	145.63
Connecticut River Bridge Maintenance,	15,000.00	12,471.49	2,528.51
Interest,	186,950.00	184,623.56	2,326.44
	$2,004,881.59	$1,955,857.18	$49,024.41

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PERMANENT IMPROVEMENTS.

	Appropriations.	Expended Present Fiscal Year.	Total Amount Expended.
Public Baths, East Side,	$7,330.00		
Police Signal System,	25,000.00		
Public House of Comfort,	25,000.00		$10.20
New Engine House No. 3,	67,000.00	$461.22	62,654.71
East Side Intercepting Sewer,	250,000.00	50,957.71	200,063.92
Purchase of Kinsella and Smith Property,	15,000.00	15,000.00	15,000.00
Grading Colt Park,	10,000.00	10,000.00	10,000.00
	399,330.00	76,418.93	287,728.83
Additional High School Site,	200,000.00		199,529.88
New High School,	450,000.00		
Municipal Building Site,	170,000.00	89.84	155,881.64
Municipal Building,	1,400,000.00	154,862.41	170,785.96
	$2,619,330.00	$231,371.18	$813,926.31

RECAPITULATION.

Unexpended Current Expense Appropriations,	$49,024.41	
Appropriations for Minor Permanent Improvements,	70,000.00	
Surplus Funds available for Permanent Improvements,	133,461.81	$252,486.22
Minor Permanent Improvements,	76,418.93	
Municipal Building Site,	89.84	
Municipal Building,	154,862.41	231,371.18
Cash on Hand March 31, 1913.		$21,115.04

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CITY DEBT, APRIL 1, 1913.

Consolidated Water Bonds. Gold — Coupon.	
Issued October 2, 1893. Mature July 1, 1918. Interest 4 per cent. Payable January and July, . . .	$475,000.00
Water Debt, ...	$475,000.00
Funding Bonds. Gold — Coupon.	
Issued October 2, 1893. Mature July 1, 1918. Interest 4 per cent. Payable January and July, . . .	290,000.00
Public Improvement Bonds. Gold — Registered.	
Issued January 1, 1897. Mature January 1, 1922. Interest 3½ per cent. Payable January and July, . .	250,000.00
Refunding Capitol Bonds. Gold — Registered.	
Issued January 1, 1897. Mature January 1, 1922. Interest 3½ per cent. Payable January and July, . .	800,000.00
Refunding Town Bonds. Gold — Registered.	
Issued May 1, 1897. Mature May 1, 1922. Interest 3½ per cent. Payable May and November, . . .	270,000.00
Police Department Bonds. Gold — Registered.	
Issued January 1, 1898. Mature January 1, 1923. Interest 3½ per cent. Payable January and July, . .	75,000.00
Park Improvement Bonds. Gold — Coupon.	
Issued January 1, 1896. Mature January 1, 1926, Interest 3½ per cent. Payable January and July, . .	150,000.00
Park Improvement Bonds. Gold — Coupon.	
Issued January 1, 1898. Mature January 1, 1926. Interest 3½ per cent. Payable January and July, . .	150,000.00
Paving Bonds. Gold — Registered.	
Issued January 1, 1898. Mature January 1, 1938. Interest 3½ per cent. Payable January and July, . .	100,000.00
Forward.	$2,560,000.00

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Forward,	$2,560,000.00
Paving Bonds. Gold — Registered.	
Issued January 1, 1900. Mature January 1, 1938. Interest 3½ per cent. Payable January and July,	100,000.00
Additional Paving Bonds. Gold — Registered.	
Issued January 1, 1900. Mature January 1, 1930. Interest 3½ per cent. Payable January and July,	20,000.00
High School and Bridge Bonds. Gold — Registered.	
Issued January 1, 1898. Mature January 1, 1938. Interest 3½ per cent. Payable January and July,	200,000.00
Connecticut River Bridge Bonds. Gold — Coupon or Registered.	
Issued August 1, 1904. Mature July 1, 1954. Interest 3½ per cent. Payable January and July,	1,000,000.00
Connecticut River Bridge Bonds. Gold — Coupon or Registered.	
Issued June 1, 1905. Mature June 1, 1955. Interest 3½ per cent. Payable June and December,	1,000,000.00
Bonded Debt,	$4,880,000.00
Town note, demand — "Town Deposit Fund" — Six per cent,	23,481.00
Temporary Loans:	
Additional High School Site, Dated Dec. 19, 1912, Due Aug. 1, 1913, 4½%,	100,000.00
Dated Dec. 30, 1912. Due Aug. 1, 1913, 4½%,	100,000.00
Municipal Building Site, Dated Jan. 30, 1913. Due Aug. 1, 1913, 4¼%,	155,000.00
Total Debt,	$5,258,481.00
Less Sinking Fund,	741,627.00
	$4,516,854.00
Less Water Debt,	475,000.00
Net Debt,	$4,041,854.00

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CITY DEBT, 1896-1913.

April 1.	Gross Debt.	Water Debt.	Sinking Fund.	Net Debt.
1896	$3,659,081.00	$970,000.00	$437,891.00	$2,251,190.00
1897	3,674,181.00	970,000.00	309,851.00	2,394,330.00
1898	4,081,455.00	925,000.00	313,732.00	2,842,723.00
1899	4,242,211.00	925,000.00	380,326.00	2,926,885.00
1900	4,111,405.00	723,000.00	450,012.00	2,938,393.00
1901	4,056,162.00	675,000.00	516,003.00	2,865,159.00
1902	4,078,956.00	675,000.00	597,593.00	2,806,363.00
1903	4,069,492.00	675,000.00	666,416.00	2,728,076.00
1904	4,409,454.00	675,000.00	752,768.00	2,981,686.00
1905	5,109,454.00	675,000.00	839,580.00	3,594,874.00
1906	6,059,454.00	675,000.00	938,106.00	4,446,348.00
1907	6,059,454.00	675,000.00	1,039,740.00	4,344,714.00
1908	6,059,454.00	675,000.00	1,152,820.00	4,231,634.00
1909	5,859,454.00	475,000.00	1,268,239.00	4,116,215.00
1910	4,903,481.00	475,000.00	412,831.00	4,015,650.00
1911	5,158,481.00	475,000.00	511,665.00	4,171,816.00
1912	5,258,481.00	475,000.00	622,226.00	4,161,255.00
1913	5,258,481.00	475,000.00	741,627.00	4,041,854.00

GRAND LISTS.

Oct. 1.	Grand List.	Corporation Stock.	Total List for Assessment of Taxes.
1901	$58,987,122.00	$21,943,715.00	$80,930,837.00
1902	60,451,657.00	23,091,968.00	83,543,625.00
1903	61,357,470.00	26,650,584.00	88,008,054.00
1904	63,482,941.00	27,641,715.00	91,124,656.00
1905	65,615,151.00	31,352,259.00	96,967,410.00
1906	68,441,090.00	30,067,299.00	98,508,389.00
1907	71,780,412.00	31,294,173.00	103,074,585.00
1908	73,926,075.00	32,648,548.00	106,574,623.00
1909	80,401,659.00	37,819,866.00	118,221,525.00
1910	91,118,506.00	46,942,336.00	138,060,842.00
1911	95,281,659.00	48,933,242.00	144,214,901.00

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PERCENTAGE OF NET INDEBTEDNESS TO ASSESSED VALUATION.

April 1.	Total List for Assessment of Taxes.	Net Indebtedness.	Percentage.
1902	$80,930,837.00	$2,806,363.00	3.46
1903	83,543,625.00	2,728,076.00	3.26
1904	88,008,054.00	2,981,686.00	3.38
1905	91,124,656.00	3,594,874.00	3.94
1906	96,967,410.00	4,446,348.00	4.58
1907	98,508,389.00	4,344,714.00	4.41
1908	103,074,585.00	4,231,634.00	4.10
1909	106,574,623.00	4,116,215.00	3.86
1910	118,221,525.00	4,015,650.00	3.39
1911	138,060,842.00	4,171,816.00	3.02
1912	144,214,901.00	4,161,255.00	2.88

STATE OF CONNECTICUT, COUNTY OF HARTFORD. } *ss.* HARTFORD, CONN., April 1, 1913.

I, Charles H. Slocum, Treasurer of the City of Hartford, do solemnly swear that the foregoing reports are correct to the best of my knowledge and belief.

CHAS. H. SLOCUM, *City Treasurer.*

Subscribed and sworn to before me, this first day of April, 1913.

F. M. BARROWS, *Notary Public.*

Hartford Conn., April 1, 1913.

This is to certify that I have thoroughly examined the accounts of the City Treasurer, relating both to receipts and disbursements and the vouchers for the same. I have also examined the securities and cash in the hands of the Treasurer, and have compared this report with the Treasurer's books, and find the same correct to the best of my knowledge and belief.

CHARLES H. ROBINS, *Controller.*

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SINKING FUND

TO APRIL 1, 1913

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

INVESTMENTS ON HAND, APRIL 1, 1913.

BONDS.

	Par.	Cost.
City of Hartford, Funded Gold, 4%, due July 1, 1918,	$47,000.00	$47,902.77
City of Hartford, Consolidated Water, 4%, due July 1, 1918,	29,000.00	32,902.31
City of Hartford, Park Improvement, 3½%, due Jan. 1, 1926,	97,000.00	103,201.72
City of Hartford, Reg. Paving, 3½%, due Jan. 1, 1938,	30,000.00	33,713.33
City of Hartford, Capitol Refunding 3½%, due Jan. 1, 1922,	7,000.00	7,302.63
City of Hartford, South School Dist., 3½%, due May. 1, 1931,	4,000.00	3,970.36
Town of Ansonia, Conn., School, 4%, due July 1, 1913,	2,000.00	2,030.45
City of New Britain, Conn., Water, 4%, due Aug. 1, 1918,	3,000.00	3,192.33
City of New Britain, Conn., School, 4%, due Aug. 1 / 16-17,	25,000.00	25,097.08
Town of New Britain, Conn., School 3½%, due May 1, 1915,	1,000.00	981.57
Town of New Britain, Conn., School, 3½%, due Aug. 1/13 to 1917,	10,000.00	9,819.31
City of New Britain, Conn., Subway, 3½%, due Oct. 1/1922,	2,000.00	1,934.56
City of Stamford, Conn., Sewerage, 4%, due July 1, 1914,	1,000.00	1,013.67
City of Stamford, Conn., Sewerage, 4%, due Nov. 1, 1914,	1,000.00	1,007.89
Town of Fairfield, Conn., 3½%, due April 1, 1916,	5,000	4,864.15
Town of Southington, Conn., 4%, due July 1, ... 1917,	4,000.00	4,027.56
Town of Orange, Conn., 4%, due Jan. 1, 1916, ..	1,500.00	1,512.33
Forward,	$269,500.00	$284,474.02

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

INVESTMENTS ON HAND APRIL 1, 1913 — CONTINUED.
BONDS — CONTINUED.

	Par.	Cost.
Forward,	$269,500.00	$284,474.02
Town of Meriden, Conn., 3½%, due May 1, 1914-15,	13,000.00	12,895.40
Town of Windsor, Conn., 4%, due Jan 1, 1914,	4,000.00	4,046.66
Town of Danbury, Conn., 4%, due March 1/15 to 1918,	12,000.00	12,154.00
City of Waterbury, Conn., Water, 4%, due Jan. 1, 1918,	1,000.00	1,016.78
City of Waterbury, Conn., Water, 4%, due Jan. 1, 1917,	1,000.00	1,000.19
City of Waterbury, Conn., Water, 4%, due Jan. 1, 1915,	1,000.00	1,001.98
City of New London, Conn., Water, 3½%, due Jan. 1, 1920,	100,000.00	97,144.49
City of Gloucester, Mass., Water, 3½%, due Oct. 1/16-17,	12,000.00	11,811.58
City of Gloucester, Mass., Water, 4%, due April 1, 1923,	3,000.00	3,057.50
City of Haverhill, Mass., School, 4%, due April 1, 1914,	2,000.00	2,007.33
City of Haverhill, Mass., Municipal, 4%, due April 1, 1915,	5,000.00	5,149.06
City of Haverhill, Mass., Water, 4%, due Dec. 1, 1922,	12,000.00	12,152.66
City of Pittsfield, Mass., Sewer, 4%, due June 1, 1917,	1,000.00	1,007.72
Town of Watertown, Mass., Street, 4%, due May 1, 1918,	2,000.00	2,034.67
City of Taunton, Mass., 3½%, due June 1, 1915,	5,000.00	4,918.13
City of Taunton, Mass., Water, 3½%, due Jan. 1, 1923,	2,000.00	1,918.48
City of Malden, Mass., Police Station, 4%, due July 2/14-15,	2,000.00	2,027.12
Town of Falmouth, Mass., 3½%, due May 1, 1914,	1,000.00	987.21
Town of Hyde Park, Mass., Sewerage, 4%, due May 1/16-17,	4,000.00	4,014.88
Town of Melrose, Mass., School, 4%, due Feb. 24, 1916,	2,000.00	2,041.67
Forward,	$454,500.00	$466,861.53

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

INVESTMENTS ON HAND APRIL 1, 1913 — CONTINUED.
BONDS — CONTINUED.

	Par.	Cost.
Forward,	$454,500.00	$466,861.53
Town of Winchester, Mass., Water, 4%, due June 1, 1913,	1,000.00	1,017.78
Town of Winchester, Mass., School, 3½%, due Oct. 1/20-21,	5,000.00	4,902.28
City of Quincy, Mass., Water, 4%, due Aug. 1, 1917,	1,000.00	1,016.11
City of Salem, Mass., Trust Fund, 4%, due July 1, 1913,	5,000.00	5,031.39
City of Salem, Mass., Sewer, 3½%, due Sept. 1, 1921,	2,000.00	1,944.39
City of Salem, Mass., Sewer, 3½%, due March 1, 1922,	1,000.00	964.14
City of Salem, Mass., Trust Fund, 4%, due July 1, 1915-6,	9,000.00	9,046.61
County of Middlesex, Mass., Reg. of Deeds, 4%, due Dec. 1, 1917,	1,000.00	1,020.28
City of Boston, Mass., City Loan, 4%, due Jan. 1, 1916,	5,000.00	5,020.56
City of Boston, Mass., Highway,	3,000.00	3,015.47
City of Beverly, Mass., Sewerage, 4%, due April 1/17-18,	4,000.00	4,038.14
City of Beverly, Mass., Sewerage, 4%, due July 1/15-18,	5,000.00	5,047.70
City of Beverly, Mass., Water, 4%, due July 1, 1915/18,	3,000.00	3,028.61
Town of Beverly, Mass., Water, 4%, due Feb. 1, 1917,	1,000.00	1,015,61
City of St. Albans, Vt., Street, 4%, due June 1 1918,	5,000.00	5,098.47
City of Belfast, Me., Refunding, 4%, due Aug. 15, 1918,	1,000.00	997.84
City of Belfast, Me., Refunding, 4%, due Aug. 15, 1918,	4,000.00	4,071.56
City of Bridgeport, Conn., 3½%, due July 1, 1915,	1,000.00	995.11
City of Bridgeport, Conn., Construction, 4¼%, Nov. 1/14-5-6-7-8,	10,000.00	10,111.48
City of Bridgeport, Conn., Improvement, 4%, due Aug. 1, 1917,	10,000.00	10,037.78
City of Dover, N. H., 4%, due July 1/16,	1,000.00	1,004.89
Forward,	$532,500.00	$545,287.73

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

INVESTMENTS ON HAND APRIL 1, 1913 — CONTINUED.
BONDS — CONTINUED.

	Par.	Cost.
Forward,	$532,500.00	$545,287.73
City of Somerville, Mass., Water, 4%, Oct. 1, 1916,	2,000.00	2,024.18
City of Meriden, Conn., Municipal Fund, 4%, due July 1/16-7-8,	23,000.00	23,346.45
City of Hallowell, Me., 4%, due Jan. 1, 1918,	5,000.00	5,027.78
City of Middletown, Conn., Water, 3.65%, due July 1, 1915,	1,000.00	1,000.92
City of Derby, Conn., Funding, 4%, due July 1, 1914,	1,000.00	1,019.44
City of Providence, R. I., Sewer, 4%, due July 1, 1921,	15,000.00	15,484.17
City of Providence, R. I., Sewer, 4%, due March 1, 1922,	5,000.00	5,128.61
Town of Norwalk, Conn., 4%, due Jan. 1, 1921,	19,000.00	19,008.44
Town of Norwalk, Conn., 4%, due Jan. 1, 1921,	1,000.00	1,009.50
City of Waltham, Mass., School, 3½%, due July 1, 1921,	2,000.00	1,938.28
City of Lawrence, Mass., Sewer, 4%, due June 1, 1914,	2,000.00	2,014.89
Town of Southington, Conn., School, 4%, due May 1, 1915,	15,000.00	15,175.00
Town of Salem, N. H., Water, 4%, due June 1/17,	500.00	509.11
Town of Greenwich, Conn., 4¼%, due July 1, 1917-18,	10,000.00	10,074.38
Town of Greenwich, Conn., 4%, due April 1/15,	1,000.00	1,011.06
Town of Greenwich, Conn., 4¼%, due July 1/19,	5,000.00	5,089.27
Town of Marblehead, Mass. (Electric Lt.), 4%, due July 1, 1924,	15,000.00	15,050.83
Town of Amesbury, Mass., Water, 4%, due July 1, 1918,	2,000.00	2,013.78
Town of Swampscott, Mass., Water, 3½%, due April 1, 1914,	1,000.00	1,007.18
City of Waltham, Mass., Water, 3½%, due April 1, 1920,	10,000.00	9,822.78
Town of Peabody, Mass. (Electric Light), 4%, due June 1, 1922,	10,000.00	10,127.22
Town of Peabody, Mass., Sewer, 4%, due Oct. 1/23-4,	6,000.00	6,034.66
Forward,	$684,000.00	$698,205.66

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

INVESTMENTS ON HAND APRIL 1, 1913 — CONCLUDED.

BONDS — CONCLUDED.

	Par.	Cost.
Forward,	$684,000.00	$698,205.66
City of New London, Conn., Water, 3½%, due July 1, 1926,	5,000.00	4,692.64
City of Newport, R. I. (Easton's Beach) 4%, May 1/19-20-1-2,	10,000.00	10,160.48
Town of Framingham, Mass., Water, 4%, due Oct. 1, 1922,	7,000.00	7,136.83
City of Chicopee, Mass. (Electric Lt.), 4%, due Dec. 1, 1922,	3,000.00	3,038.50
Town of Natick, Mass., Water, 3½%, due Oct. 1, 1920,	5,000.00	4,918.12
Town of Stonington, Conn., School, 4%, due Dec. 1, 1918,	10,000.00	10,058.61
City of Springfield, Mass., Water, 4%, due Jan 1, 1917,	1,000.00	1,010.06
City of Waterbury, Conn., 3½%, due Jan. 1, 1923,	1,000.00	962.45
City of Augusta, Me., 4%, due Feb. 15/17,	1,000.00	1,002.74
City of Manchester, N. H., 4%, due April 1/15,	1,000.00	1,003.94
City of Burlington, Vt., Improvement, 4%, due July 1, 1914,	1,000.00	996.28
Town of Bethel, Conn., 4%, due Oct. 1/19,	1,000.00	1,010.22
City of Pawtucket, R. I., Bonds, Water, 4½%, due Dec. 1, 1917,	8,000.00	8,085.20
County of Essex, Mass., Building, 4%, due Dec. 1, 1915,	1,000.00	1,005.75
Town of New Haven, Conn, 3½%, due July 1, 1918,	2,000.00	1,959.72
	$741,000.00	$755,247.20
Cash on hand,	627.00	627.00
	$741,627.00	$755,874.20

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "A," DR.

1912:				
April 1,	Cash on hand,			$725.49
	Received interest on bonds:			
	$5,000	City of Haverhill, Mass.,		100.00
	2,000	City of Somerville, Mass.		40.00
	2,000	City of Haverhill, Mass.,		40.00
	12,000	City of Gloucester, Mass.,		210.00
	4,000	City of Beverly, Mass.,		80.00
	5,000	Town of Fairfield, Conn.		87.50
	3,000	City of Gloucester, Mass.,		60.00
	5,000	Town of Winchester, Mass.,		87.50
May 1,	4,000	Southwest School Dist.,		70.00
	13,000	Town of Meriden, Conn.,		227.50
	2,000	Town of Watertown, Mass.,		40.00
	12,000	Town of Danbury, Conn.,		240.00
	1,000	Town of Falmouth, Mass.,		17.50
	4,000	Town of Hyde Park, Mass.,		80.00
	15,000	Town of Southington, Conn.,		300.00
	10,000	City of Bridgeport, Conn.,		212.50
	1,000	City of Stamford, Conn.,		20.00
May 6,	Received from Otis J. Hart, Collector,			
		On list of 1907,	$0.50	
		On list of 1908,	19.40	
		On list of 1909,	53.71	
		On list of 1910,	547.17	620.78
June 1,	Received interest on bonds:			
	$5,000	City of Taunton, Mass.,		87.50
	500	Town of Salem, Mass.		10.00
	1,000	County of Middlesex, Mass.,		20.00
	1,000	Town of Winchester, Mass.,		20.00
	2,000	City of Lawrence, Mass.,		40.00
	1,000	City of Pittsfield, Mass.,		20.00
	5,000	City of St. Albans, Vt.,		100.00
	Forward,			$3,556.27

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "A," DR.— CONTINUED.

1912:			
	Forward, ...		$3,556.27
June 5,	Received from Otis J. Hart Collector,		
	On list of 1908, ...	$49.60	
	On list of 1909, ...	44.06	
	On list of 1910, ...	391.78	485.44
July 1,	Received interest $6,000 Town of Portland, Conn., bonds, ...		120.00
	Received interest $5,000 City of Beverly, Mass., bds., ...		100.00
	Received interest $3,000 City of Beverly, Mass. (water), bds., ...		60.00
	Received interest $1,000 City of Stamford, Conn.. bonds, ...		20.00
	Received interest $100,000 City of New London, Conn., bonds, ...		1,750.00
	Received interest $1,500 Town of Orange, Conn., bonds, ...		30.00
	Received interest $1,000 City of Waterbury, Conn., bonds, ...		20.00
	Received interest $5,000 City of Ansonia, Conn., bonds, ...		100.00
	Received interest $4,000 Town of Windsor, Conn., bonds, ...		80.00
	Received interest $19,000 City of Salem, Mass., bonds, ...		380.00
	Received interest $2,000 City of Malden, Mass., bonds		40.00
	Received interest $1,000 City of Bridgeport, Conn., bonds, ...		17.50
	Received interest $1,000 City of Dover, N. H., bond, ...		20.00
	Received interest $5,000 City of Hallowell, Me., bonds, ...		100.00
	Received interest $1,000 City of Middletown, Conn., bonds, ...		18.25
	Received interest $23,000 City of Meriden, Conn., bonds, ...		460.00

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "A," DR.— CONTINUED.

1912:			
July 1,	Received interest, $1,000 City of Derby, Conn., bonds, ...		20.00
	Received interest $4,000 Town of Southington, Conn., bonds, ...		80.00
	Received interest $2,000 City of Waltham, Mass., School bonds, ...		35.00
	Received interest $19,000 Town of Norwalk, Conn., bonds, ...		380.00
	Received interest $15,000 City of Providence, R. I., bonds, ...		300.00
	Received interest $3,000 City of Boston, Mass., bonds, ...		60.00
	Received interest $5,000 City of Boston, Mass., bond, ...		100.00
July 2,	Received interest $29,000 City of Hartford, Consolidated Water bds.,		580.00
	Received interest $46,000 City of Hartford, Funding Gold bonds, ...		920.00
	Received interest $97,000 City of Hartford Park Im. bonds, ...		1,697.50
July 2,	Received from Otis J. Hart, Collector,		
	On list of 1908, ...	$2.98	
	On list of 1909, ...	12.58	
	On list of 1910, ...	971.85	
	On list of 1911, ...	572.52	1,559.93
	Received payment City of Salem, Mass., bonds, ...		5,000.00
	Received payment City of Ansonia, Conn., bonds, ...		3,000.00
	Received payment Town of Greenwich, Conn., bonds ($10,000), ...		10,000.00
	Received interest Town of Greenwich, Conn., bonds ($10,000), ...		200.00
	Received interest City of Hartford, Capitol bonds ($7,000),.....		122.50

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "A," DR.— CONTINUED.

1912:			
July 2,	Received interest $30,000 City of Hartford, Paving bonds, ...		525.00
	Received interest on bonds:		
	$1,000 Town of New Britain, Conn., ...		17.50
	3,000 City of New Britain, Conn., ...		60.00
	15,000 City of New Britain, Conn., ...		300.00
	1,000 Town of Beverly, Mass., ...		20.00
	1,000 Town of St. Albans, Vt., ...		20.00
	1,000 City of Quincy, Mass., ...		20.00
	12,000 Town of New Britain, Conn., ...		210.00
Aug. 1,	Received payment Town of New Britain, Conn., bonds, ...		2,000.00
Aug. 19,	Received interest City of Belfast, Me., bonds ($4,000), ...		80.00
	Received interest $2,000 Town of Melrose, Mass., bonds, ...		40.00
Aug. 29,	Received from Otis J. Hart, Collector,		
	On list of 1908, ...	$7.66	
	On list of 1909, ...	44.55	
	On list of 1910, ...	221.38	
	On list of 1911, ...	83,231.95	83,505.54
Sept. 4.	Received payment Aroostook County, Me., bonds,		15,000.00
	Received Interest $5,000 City of Providence, R I. bonds, ...		100.00
	Received interest $15,000 County of Aroostook, Me., bonds, ...		337.50
	Received interest $2,000 City of Salem, Mass., bonds, ...		35.00
Sept. 9,	Received from Otis J. Hart, Collector,		
	On list of 1909, ...	$8.10	
	On list of 1910, ...	10.62	
	On list of 1911, ...	2,109.51	2,128.23

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "A," DR.— CONTINUED.

1912:			
Oct. 1,	Received interest on bonds:		
	Town of Natick, Mass. ($2,000),		87.50
	$2,000 City of New Britain, Conn.,		35.00
	10,000 City of Waltham, Mass.,		175.00
	7,000 Town of Framingham, Mass.,		140.00
	1,000 Town of Swampscott, Mass.,		17.50
	1,000 Town of Greenwich, Conn.,		20.00
	5,000 Town of Winchester, Mass.,		87.50
	3,000 City of Gloucester, Mass.,		60.00
	5,000 Town of Fairfield, Conn.,		87.50
	4,000 City of Beverly, Mass.,		80.00
	12,000 City of Gloucester, Mass.,		210.00
	2,000 City of Haverhill, Mass.,		40.00
	2,000 City of Somerville, Mass.,		40.00
	5,000 City of Haverhill, Mass. (Municipal),		100.00
	Received from Otis J. Hart, Collector,		
	On list of 1909,	$0.30	
	On list of 1910,	19.00	
	On list of 1911,	587.90	607.20
Nov. 1,	Received interest on bonds:		
	$10,000 City of Newport, R. I., bonds,		200 00
	1,000 City of Stamford, Conn., bond,		20.00
	10,000 City of Bridgeport, Conn.,		212.50
	15,000 Town of Southington, Conn.,		300.00
	4,000 Town of Hyde Park, Mass.,		80.00
	1,000 Town of Falmouth, Mass.,		17.50
	12,000 Town of Danbury, Conn.,		240.00
	2,000 Town of Watertown, Mass.,		40.00
	13,000 Town of Meriden, Conn.,		227.50
	4,000 Town of Hartford, South School,		70.00
Nov. 6,	Received from Otis J. Hart, Collector,		
	On list of 1909,	$0.16	
	On list of 1910,	26.12	
	On list of 1911,	1,298.10	1,324.38

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "A," DR.— CONTINUED.

Dec. 1,	Received interest on bonds:			
	$5,000	City of Taunton, Mass.,		87.50
	500	Town of Salem, New Hampshire,		10.00
	1,000	County of Middlesex, Mass.,		20.00
	1,000	Town of Winchester, Mass.,		20.00
	2,000	City of Lawrence, Mass.,		40.00
	1,000	City of Pittsfield, Mass.,		20.00
	5,000	City of St. Albans, Vt.,		100.00
	3,000	City of Chicopee, Mass.,		60.00
	10,000	Town of Peabody, Mass.,		200.00
	12,000	City of Haverhill, Mass,.		240.00
Dec. 3.	Received from Otis J. Hart, Collector,			
		On list of 1906,	$0.15	
		On list of 1907,	.50	
		On list of 1908,	2.31	
		On list of 1909,	8.60	
		On list of 1910,	47.39	
		On list of 1911,	567.90	626.85
1913:				
Jan. 1,	Received interest on bonds:			
	$6,000	Town of Portland, Conn.,		120.00
	5,000	City of Beverly, Mass.,		100.00
	3,000	City of Beverly, Mass.,		60.00
	1,000	City of Stamford, Conn.,		20.00
	100,000	City of New London, Conn.,		1,750.00
	2,000	City of Malden, Mass.,		40.00
	4,000	Town of Windsor, Conn.,		80.00
	1,500	Town of Orange, Conn.,		30.00
	1,000	City of Waterbury, Conn.,		20.00
	1,000	City of Bridgeport, Conn.,		17.50
	1,000	City of Dover, N. H., bond,		20.00
	5,000	Hallowell, Me.,		100.00
	1,000	Middletown, Conn.,		18.25
	23,000	Meriden, Conn.,		460.00
	1,000	Derby, Conn.,		20.00

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "A," DR.—CONTINUED.

1913:				
Jan. 1,	4,000	Town of Southington, Conn., ...		80.00
	2,000	City of Waltham, Mass., ...		35.00
	15,000	City of Providence, R. I., ...		300.00
	3,000	City of Boston, Mass., ...		60.00
	29,000	City of Hartford, Conn., Consolidated Water, ...		580.00
	46,000	City of Hartford, Conn., Funding Gold,		920.00
	97,000	City of Hartford, Conn., Park Imp., ..		1,697.50
	2,000	City of Ansonia, Conn., ...		40.00
	14,000	City of Salem, Mass., ...		280.00
	15,000	Town of Marblehead, Mass., ...		300.00
	5,000	Town of Greenwich, Conn., ...		106.25
	10,000	Town of Greenwich, Conn., ...		212.50
	2,000	Town of Amesbury, Mass., ...		40.00
	1,000	City of Springfield, Mass., ...		20.00
	10,000	Town of Stonington, Conn., ...		200.00
	20,000	Town of Norwalk, Conn., ...		400.00
	5,000	City of New London, Conn., ...		87.50
	2,000	City of Taunton, Mass., ...		35.00
	1,000	City of Waterbury, Conn., ...		17.50
	5,000	City of Boston, Mass., ...		100.00
	1,000	City of Hartford, Funded Gold, ...		20.00
Jan. 4,	Received from Otis J. Hart, Collector,			
		On list of 1904, ...	$0.90	
		On list of 1905, ...	1.30	
		On list of 1906, ...	1.21	
		On list of 1907, ...	22.24	
		On list of 1908, ...	7.34	
		On list of 1909, ...	31.34	
		On list of 1910, ...	54.87	
		On list of 1911, ...	1,401.74	1,520.94
Jan. 8,	Received payment, Town of Portland, Conn., ...			6,000.00
Jan. 8,	Received interest City of Hartford, Paving bonds ($30,000)			525.00
	Received interest City of Hartford, Capitol, bonds ($7,000), ...			122.50

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "A," DR.— CONCLUDED.

1913:			
Feb. 1,	Received interest Town of New Britain, Conn., ($1,000)		$17.50
	Received interest on bonds:		
	$3,000 City of New Britain, Conn.,		60.00
	1,000 Town of Beverly, Mass.,		20.00
	1,000 Town of St. Albans, Vt.,		20.00
	10,000 Town of New Britain, Conn.,		175.00
	1,000 City of Quincy, Mass.,		20.00
	25,000 City of New Britain, Conn.,		500.00
	10,000 City of Bridgeport, Conn.,		200.00
Feb. 4,	Received payment Town of St. Albans, Vt., bond,		1,000.00
	Received interest on deposit at Conn. Trust & S. D. Co.,		64.25
Feb. 15,	Received interest $5,000 City of Belfast, Me., bonds,		100.00
	Received interest $1,000 City of Augusta, Me., bond,		20.00
	Received interest $2,000 Town of Melrose, Mass.,		40.00
	Received from Otis J. Hart, Collector,		
	On list of 1908,	$4.90	
	On list of 1909,	52.10	
	On list of 1910,	58.50	
	On list of 1911,	846.69	962.19
March 1,	Received interest $5,000 City of Providence, R. I. bonds,		100.00
	Received interest $2,000 City of Salem, Mass., bonds,		35.00
	Received interest $1,000 City of Salem, Mass., bond,		17.50
	Received from Otis J. Hart, Collector,		
	On list of 1908,	$3.00	
	On list of 1909,	44.23	
	On list of 1910,	68.03	
	On list of 1911,	416.57	531.83
March 31,	On list of 1909,	$6.35	
	On list of 1910,	41.37	
	On list of 1911,	172.13	219.85
			$162,413.15

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND

SCHEDULE "B," CR.

1912:			
May	15,	Paid for $2,000 City of Salem, Mass., bonds, @ 96½ and interest,	$1,944.39
		Paid for $500 Town of Salem, N. H., bond, @ 100 and interest,	509.11
July	2,	Paid for $1,000 Town of Greenwich, Conn., bonds, @ 100.732 and interest,	10,074.38
July	9,	Paid for $15,000 Town of Marblehead, Mass., bonds, @ 100¼ and interest,	15,050.83
Aug.	2,	Paid for $1,000 Town of Greenwich, Conn., bond, @ 99-3/4 and interest,	1,011.06
Aug.	31,	Paid for $2,000 Town of Amesbury, Mass., bonds, @ 100 and interest,	2,013.78
		Paid for $1,000 Town of Swampscott, Mass., bond, @ 99.24 and interest,	1,007.18
Sept.	3.	Paid for $10,000 City of Waltham, Mass., bonds, @ 96-3/4 and interest,	9,822.78
		Paid for $10,000 Town of Peabody, Mass., bonds, @ 100¼ and interest,	10,127.22
		Paid for $12,000 City of Haverhill, Mass., bonds, @ 100¼ and interest,	12,152.66
		Paid for $5,000 City of New London, Conn., bonds, @ 93¼ and interest,	4,692.64
		Paid for $2,000 City of New Britain, Conn., bonds, @ 95¼ and interest,	1,934.56
		Paid for $3,000 City of Newport, R. I., bonds, @ 100¼ and interest,	3,048.17
		Paid for $3,000 City of Newport, R. I., bonds, @ 100¼ and interest,	3,048.17
		Paid for $3,000 City of Newport, R. I., bonds, @ 100¼ and interest,	3,048.17
		Paid for $1,000 City of Newport, R. I., bonds, @ 100¼ and interest,	1,016.07
		Paid for $2,000 Town of Framingham, Mass., bonds, @ 100¼ and interest,	2,038.78
Sept.	4,	Paid for $1,000 City of Chicopee, Mass., bonds, @ 100¼ and interest,	1,012.83
		Paid for $2,000 City of Chicopee, Mass., bonds, @ 100¼ and interest,	2,025.67
		Paid for $5,000 Town of Natick, Mass., bonds, @ 96-7/8 and interest,	4,918.12
		Forward,	$90,496.57

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "B," CR.— CONTINUED.

1912:			
		Forward,	$90,496.57
Sept.	4,	Paid for $1,000 Town of Norwalk, Conn., bond, @ 100¼ and interest,	1,009.50
Sept.	5,	Paid for $1,000 City of Salem, Mass., bond, @ 96-3/8 and interest,	964.14
		Paid for $5,000 Town of Framingham, Mass., bonds, @ 100¼ and interest,	5,098.05
		Paid for $10,000 Town of Stonington, Conn., bonds, @ 99-7/8 and interest,	10,058.61
		Paid for $10,000 City of Bridgeport, Conn., bonds, @ 100 and interest,	10,037.78
Sept.	9,	Paid for $10,000 City of New Britain, Conn., bonds, @ 99-7/8 and interest,	10,029.72
		Paid for $1,000 City of Springfield, Mass., bond, @ 100¼ and interest,	1,010.06
Sept.	16,	Paid for $5,000 Town of Greenwich, Conn., bonds, @ 100.90 and interest,	5,089.27
Oct.	4,	Paid for $1,000 City of Belfast, Me., bond, @ 99.24 and interest,	997.84
		Paid for $2,000 City of Taunton, Mass., bonds, @ 95.02 and interest,	1,918.48
Nov.	2,	Paid for $1,000 City of Waterbury, Conn., bonds, @ 95.05 and interest,	962.45
Nov.	19,	Paid for $1,000 City of Augusta, Me., bond, @ 99.23 and interest,	1,002.74
Dec.	2,	Paid for $1,000 City of Manchester, N. H., bond, @ 99-3/4 and interest,	1,003.94
Dec.	14,	Paid for $1,000 City of Hartford Funded Gold bond, @ 99½ and interest,	1,013.00
Dec.	20,	Paid for $1,000 City of Burlington, Vt. bond, @ 99¾ and interest,	996.28
1913:			
Jan.	3,	Paid for $1,000 Town of Bethel, Conn., bond, @ 100 and interest,	1,010.22
		Paid for $8,000 City of Pawtucket, R. I., bonds, @ 100.665 and interest,	8,085.20
Jan.	8,	Paid for $3,000 Town of Peabody, Mass., bonds, @ 99½ and interest,	3,017.33
		Paid for $3,000 Town of Peabody, Mass., bonds, @ 99½ and interest,	3,017.33
		Forward,	$156,818.51

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SCHEDULE "B," CR.— CONCLUDED.

1913:			
		Forward,	$156,818.51
Feb.	3,	Paid for $1,000 County of Essex, Mass., bond, @ 99-7/8 and interest,	1,005.75
Feb.	6,	Paid for $1,000 City of Waterbury, Conn., bond, @ 99.63 and interest,	1,000.19
		Paid for $1,000 City of Waterbury, Conn., bond, @ 99.81 and interest,	1,001.98
Feb.	21,	Paid for $2,000 Town of New Haven, Conn., bond, @ 97½ and interest,	1,959.72
Mch.	31,	Balance,	627.00
			$162,413.15

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, AGENT,
in account with HARTFORD CITY SINKING FUND.

SUMMARY FROM APRIL 1, 1912 TO APRIL 1, 1913.

Cash on hand, April 1, 1912,	$725.49
Received Income from Investments, Schedule "A,"	25,594.50
Received from Collector, Schedule "A,"	94,093.16
Received payment of Investments, Schedule "A,"	42,000.00
	$162,413.15

Paid for Investments (par value of $161,500)	$161,786.15
Cash on hand, April 1, 1913,	627.00
	$162,413.15

CONN. TRUST AND SAFE DEPOSIT COMPANY, *Agent*,
By MEIGS H. WHAPLS, *President*.

HARTFORD, CONN., April 7, 1913.

I hereby certify that I have examined the above statement, and have counted the bonds, etc., and find the statement correct, and the bonds, etc. as stated.

CHAS. H. ROBINS, *City Controller*.

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REPORT

OF THE

CITY CONTROLLER

FOR THE

Year Ending March 31, 1913

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REPORT

HARTFORD, CONN., April 1, 1913.

Hon. Louis R. Cheney, Mayor of the City of Hartford:

SIR:—In compliance with the law the undersigned herewith presents his annual report of the transactions in his office for the fiscal year ending March 31, 1913, together with an inventory of the real and personal property owned by the City of Hartford.

Several of the departments have taken advantage of the provision in the City's Charter, allowing bills to be paid upon the approval of the Auditing Committee, and have thus secured a discount for their prompt payment, but a greater saving might be made if this privilege was more generally followed.

The following accounts have been audited: The City Treasurer, City Collector, Board of Street Commissioners, Board of Park Commissioners, the Clerk of the Police Court, the Clerk of the City Court, the Treasurer of the High School, the City Sinking Fund, and with the Auditing Committee, the accounts of the Board of Water Commissioners.

Respectfully,

CHARLES H. ROBINS, *Controller.*

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RECEIPTS.

Duplicate receipts for the following amounts, received by the Treasurer, are on file in the Controller's office:

City Taxes	$1,400,932.60
Personal Tax	88,761.50
National Bank Stock Tax	2,805.38
Street Railway Tax	23,402.95
County Commissioners	70,209.17
Water Commissioners, Interest on Water Bonds	19,000.00
Street	53,432.65
Engineering	51.46
Fire	355.20
Police	8,050.46
Charity	9,237.72
Health	2,194.85
State Appropriation for Schools	52,980.75
State Appropriation for Evening Schools	2,234.25
Town Deposit Fund Income	1,408.88
High School Tuition Fees	5,554.50
School Visitors	10.00
Commission collecting School Taxes	1,939.80
Legal and Claims	736.64
Police Court	12,476.58
City Court	2,374.12
Probate Court	288.31
Public Buildings	2,970.96
Public Dock Commission	447.70
Sealer of Weights and Measures	187.74
Amusement Licenses	1,910.00
Sewers	29,810.93
Windsor Street Sewer	3,715.24
Street Improvements	6,636.30
Sidewalks	4,431.30
Street Paving	1,808.60
Assessment Liens and Interest	991.24
Additional High School Site, Rents, Fire Insurance, etc.	18,002.04
Registration of Dogs	7,168.80
Daniels Mill Dam	1.00
	$1,836,519.62

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DISBURSEMENTS.

ORDERS DRAWN ON CITY TREASURER,

No. 1 to 17589.

STREET DEPARTMENT.

	Appropriation	Amended	Expended
Macadamizing	$46,500.00	$45,500.00	$44,119.56
Grading and Turnpiking	20,500.00	20,500.00	20,493.28
Sewer Repairs	27,000.00	27,000.00	26,139.90
Culverts and Inlets	14,000.00	14,000.00	13,991.19
Crogs and Sidewalks	9,000.00	9,000.00	7,975.38
Garbage and Ashes	35,000.00	35,737.54	35,370.54
Street Cleaning	65,000.00	66,023.33	66,015.48
Incidentals	3,000.00	4,000.00	3,985.83
Office Expenses	4,000.00	4,400.00	4,398.74
Salaries	13,500.00	13,787.50	13,641.59
Electric Lighting	67,000.00	67,000.00	64,529.10
Maintenance of Improved Paving	68,300.00	67,562.46	58,343.50
Resurfacing and Repairs	49,500.00	48,562.50	46,903.24
Bridge Repairs	6,600.00	6,600.00	5,940.56
Roller Repairs	2,000.00	2,000.00	1,625.56
Storehouse and Lot	3,100.00	3,100.00	3,094.17
Forestry	6,000.00	6,000.00	5,381.23
Automobiles	2,000.00	2,250.00	2,226.25
Street Sprinkling	35,000.00	35,000.00	34,818.66
Essex Street Damages	3,500.00	3,500.00	3,450.00
Park River and Rebuilding Dam	6,000.00	5,000.00	3,423.80
Unexpended Balance			20,655.77
	$485,500.00	$486,523.33	$486,523.33

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ENGINEERING DEPARTMENT.

	Appropriation	Amended	Expended
Salaries	$15,080.00	$13,685.00	$13.535.00
Supplies and Equipment	2,000.00	2,000.00	1,997.87
Transportation	1,200.00	1,100.00	1,097.20
Merestones	500.00	600.00	539.81
Employees	9,820.00	11,215.00	11,165.62
Unexpected Balance			264.50
	$28,600.00	$28,600.00	$28,600.00

FIRE DEPARTMENT.

Pay Roll	$185,250.00	$182,571.73	$182,571.73
Coal and Wood for Engines Apparatus and Repairs	16,900.00	13,532.69	13.532.69
Coal for Heating	4,500.00	4,900.00	4,900.00
Extra Horse Hire	500.00	144.00	144.00
Fire Alarm	3,450.00	4,181.75	4.181.75
Forage	7,500.00	11,049.29	11,049.29
Furniture and Bedding	700.00	673.90	673.90
Harness and Repairs	400.00	220.67	220.67
Horseshoeing	1,400.00	1,333.38	1,333.38
Hose and Repairs	4,800.00	4,659.81	4,659.81
Lighting	2,500.00	2,585.44	2,585.44
Printing and Stationery	700.00	996.65	996.65
Real Estate and Repairs	4,300.00	5,073.87	5,073.87
Rent	500.00	500.00	500.00
Supplies	3,000.00	3,430.83	3,430.83
Telephones	1,150.00	1,070.80	1,070.80
Uniforms and Badges	250.00	230.24	230.24

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	Appropriation	Amended	Expended
Veterinary	250.00	255.50	255.50
Wagons	18,000.00	19,201.45	19,201.45
Washing	1,000.00	974.16	974.16
Water and Ice	1,100.00	976.65	976.65
Incidentals	1,200.00	787.19	787.19
	$259,350.00	$259,350.00	$259,350.00

POLICE DEPARTMENT.

Salaries of Officers, 126 Patrolmen and 3 Drivers	$171,200.00	$171,200.00	$168,810.04
Supernumerary Service and 6 Dormitory Men	3,300.00	2,925.00	2,162.50
Sick Time	1,500.00	1,500.00	534.75
Vacations	9,475.00	9,475.00	9,075.00
Employees	5,360.00	5,360.00	5,351.18
Station House Supplies	4,000.00	4,750.00	4,583.14
Station House Repairs	1,000.00	1,277.97	1,181.50
Ambulance and Surgeons	2,850.00	2,850.00	2,341.54
Care of Prisoners	650.00	650.00	503.00
Office Expenses	1,200.00	1,462.24	1,430.20
Patrol Wagon Service	2,265.00	2,265.00	1,699 68
Telegraph Equipment	600.00	100.00	8.00
Motorcycles and Bicycles	1,000.00	847.03	847.03
Fire Insurance	375.00	112.76	112.76
Contingent Fund	200.00	200.00	200.00
* Special Pay Roll		3,812.81	3,812.81
Unexpended Balance			6,134.68
	$204,975.00	$208,787.81	$208,787.81

* The above amount was received by the City Treasurer for special work done by the Supernumerary Policemen as per ordinance.

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HEALTH DEPARTMENT.

	Appropriation	Amended	Expended
Salaries	$15,700.00	$16,116.67	$16,097.92
Transportation	2,600.00	2,619.00	2,619.00
Rent	1,200.00	1,200.00	1,200.00
Printing, Postage and Stationery	750.00	863.13	863.13
Return Fees	1,500.00	1,487.75	1,487.75
Laboratory	1,000.00	975.00	942.80
Incidentals	2,434.00	2,579.49	2,578.00
Disinfectants	150.00	90.00	90.00
Milk Expense	100.00	93.19	93.19
Telephones	116.00	116.00	116.00
Mosquito Prophylaxis	100.00	33.80	33.80
Burial of Dead Animals	50.00	7.00	7.00
Vaccinations	300.00	494.64	493.84
Unexpended Balance			53.24
	$26,000.00	$26,675.67	$26,675.67

CHARITY DEPARTMENT.

Almshouse	$65,000.00	$70,457.71	$70,421.53
Hospitals and Asylums	45,000.00	47,082.18	47,082.18
Outdoor Poor	6,400.00	4,589.21	4,589.21
Office Expenses	6,100.00	6,100.00	6,014.57
Miscellaneous	5,500.00	4,770.90	4,770.90
Unexpended Balance			121.61
	$128,000.00	$133,000.00	$133,000.00

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CHARITY DEPARTMENT.

In Detail.

ALMSHOUSE.

Meat and Fish	$12,097.97
Provisions, Food Supplies	10,145.35
Bread	2,738.63
Milk	3,579.18
Tobacco, Snuff and Pipes	709.37
Medicines and Medical Supplies	3,715.60
Rubber Goods	548.43
Blankets, Spreads and Pillows	230.00
Men's Clothing, Hats and Supplies	1,261.64
Dry Goods, Women's Clothing, etc.	1,663.49
Shoes, Slippers and Supplies	380.70
Lumber	595.92
Paints, Oils, Brushes and Supplies	171.61
Hardware, Tools and Supplies	157.97
Lime, Cement, Mops, Pails, Brooms	76.40
Sheet Iron, Tin and Metal Supplies	44.38
Electric Lighting	1,702.37
Electric Wiring and Fixtures	119.44
Plumbing and Steam Fitting Supplies	942.06
Furniture Supplies and Repairs	169.11
Crockery and Table Ware	77.18
Washing Material, Soap and Tallow	360.36
Insurance Account	969.11
Coal	9,666.28
Burial Expenses	100.00
Newspapers	16.00
Water Supply	1,635.70
Taxes	40.80
Telephone Rent	82.40
Feed for Stock	420.49
Straw for Bedding	16.70
Blacksmith Work and Horseshoeing	201.25
Repairs on Team	78.15

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Harness Supplies and Repairs	50.10
Garden Seeds, Plants and Shrubs	72.24
Sundries Account	414.88
Dentist Services	10.00
Awning Account	124.55
Printing and Stationery	213.30
Disinfectant	202.00
Wire Work	108.75
Eradicating Rats	67.00
Extra Medical Services	5.00
Repairs on Sheds	150.00
Floor and Scrub Brushes	38.00
Spectacles	12.00
Vaccinations	114.50
Repairing Artificial Leg	25.00
Repairing Slate Roofs	169.75
Repairs on Gutters and Eaves	75.97
New Wills-ite Floor	65.00
Salary of Steward	660.00
" " Supervision	600.00
" " Pharmacist and Hospital Steward	840.00
" " Barnman	300.00
" " Engineer	780.00
" " Night Engineer and Watchman	600.00
" " Inmates' Cook	420.00
" " Officer's Cook	555.00
" " Infirmary Cook	570.00
" " Clerk	240.00
" " Matron	360.00
" " Nursery Matron	415.00
" " Head Nurse	790.00
" " Nurses	3,368.50
" " Orderlies	585.75
" " Maids	1,528.30
" " Laundress	336.00
" " Assistant Laundress	222.00
" " Housekeeper	360.00
	$70,421.53

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OUT DOOR POOR.

Rent of Tenements	$1,955.00
Aid to Aged and Infirm	137.57
Medicines and Medical Supplies	680.43
Burial Expenses	56.00
Shoes	5.70
Transportation	453.70
Sundries, Petty Cash Account	88.39
Provisions, Storeroom	272.69
Rent, Storeroom and Dispensary	808.00
Cleaning Storeroom and Dispensary	120.00
Paper, Twine, Bags, etc.	5.48
Insurance, Storeroom and Dispensary	6.25
	$4,589.21

HOSPITALS AND ASYLUMS.

Hartford Hospital	$6,930.22
St. Francis Hospital	504.60
Burials from Hospitals	40.00
Connecticut Hospital, Middletown	24,409.39
Retreat for Insane, Hartford	122.29
School for Imbeciles, Lakeville	2,808.03
Home for Incurables, Newington	247.40
House of the Good Shepherd	39.00
St. Peter's Church Corporation	97.50
St. Joseph's Church Corporation	108.00
St. Patrick's Church Corporation	136.50
St. Augustine's Church Corporation	78.00
Immaculate conception Church Corporation	136.50
Hartford County Tuberculosis Sanatorium	10,814.06
New Haven County Tuberculosis Sanatorium	331.37
Fairfield County Tuberculosis Sanatorium	148.48
Norwich Insane Asylum	130.84
	$47,082.18

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OFFICE EXPENSES.

Salary of Superintendent	$2,000.00
" " Clerk	1,800.00
" " Assistant Clerk	715.00
Stationery	66.49
Rent of Telephone	72.71
Newspapers	8.00
Printing Books and Blanks	201.70
Electric Lighting	14.30
Cleaning Office	120.00
Insurance Account	14.10
Sundries, Petty Cash Account	115.77
Rent of Office	808.00
Printing Reports	68.50
Decorations	10.00
	$6,014.57

MISCELLANEOUS ACCOUNT.

Salary of Physician	$1,200.00
Salary of Investigator	1,493.75
Probate Fees	189.95
Transportation of Sick	78.30
Transportation of Insane	90.80
Examination of Insane	60.00
Transportation of City Physician	600.00
Care of Leper and Smallpox patients	1,011.43
Acting City Physician	46.67
	$4,770.90

SUMMARY OF DISBURSEMENTS.

Almshouse	$70,421.53
Out Door Poor	4,589.21
Hospitals and Asylums	47,082.18
Office Expenses	6,014.57
Miscellaneous	4,770.90
	$132,878.39

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PARK DEPARTMENT.

	Appropriation	Amended	Expended
General Expense, Maintenance and Improvement, including Office Expenses, Salaries, etc.	$58,021.00	$58,021.00	$58,021.00
Colt Park —			
Little Folks Playground	1,200.00	1,200.00	1,200.00
Wading Pool	415.00	415.00	415.00
Completion of Walk	900.00	900.00	900.00
Grading for Ball Grounds, Skating Rinks		10,000.00	10,000.00
Pope Park —			
Resurfacing old Paths and making new ones	3,000.00	3,000.00	3,000.00
Cement Walk	3,420.00	3,420.00	3,420.00
Out Door Gymnasium	300.00	300.00	300.00
Girls' Gymnasium	300.00	300.00	300.00
Pavilion	480.00	480.00	480.00
Riverside Park — .			
Speedway	264.00	264.00	264.00
Tunnel Park —			
Fence	225.00	225.00	225.00
Rocky Ridge Park —			
Annual Appropriation for Improvement	1,000.00	1,000.00	1,000.00
Miscellaneous —			
Automobile	850.00	850.00	850.00
Additional Seats and Swings	1,625.00	1,625.00	1,625.00
Maintenance and Improvement of Public Cemeteries	6,000.00	6,000.00	6,000.00
Playground		2,500.00	2,500.00
	$78,000.00	$90,500.00	$90,500.00

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HIGH SCHOOL.

	Appropriation	Amended	Expended
Salaries	$106,000.00	$109,450.00	$109,131.12
Library and Printing	2,600.00	3,700.00	3,697.86
Science and Sundries	3,000.00	3,000.00	2,978.54
Light, Fuel and Water	7,500.00	7,800.00	7,799.33
Repairs	1,900.00	3,400.00	3,367.93
Manual Training	800.00	800.00	799.51
Evening High School	8,000.00	8,650.00	8,636.83
New Plumbing	7,000.00		
Fire Insurance	1,200.00	1,200.00	1,053.41
Unexpended Balance			535.47
	$138,000.00	$138,000.00	$138,000.00

SCHOOLS.

State Appropriation	$55,000.00	$55,000.00	$52,980.75
Town Deposit Fund	1,408.88	1,408.88	1,408.88
One Mill Tax	94,325.00	94,325.00	94,325.00
Unexpended Balance			2,019.25
	$150,733.88	$150,733.88	$150,733.88

BOARD OF SCHOOL VISITORS.

Superintendent's Salary	$2,000.00	$2,000.00	$2,000.00
Attendance Officer's Salary	1,100.00	1,100.00	1,100.00
Manual Training —			
Salaries	15,500.00	15,500.00	15,142.63
Material and Equipment	2,525.00	2,525.00	2,472.51
Repairs	1,000.00	708.17	478.69
Permanent Improvement	1,500.00	1,791.83	1,791.83
Printing	500.00	460.22	435.20
General Expense	800.00	800.00	795.85

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	Appropriation	Amended	Expended
Office Rent	425.00	425.00	425.00
Attendance Officer's Expense	250.00	250.00	250.00
Free Text Books, High School	3,300.00	4,606.34	4,606.04
Free Text Books, District	9,600.00	10,806.95	10,806.95
Evening Schools	15,500.00	15,500.00	15,387.40
Vacation Schools	6,500.00	6,522.11	6,522.10
Out Door Schools	4,000.00	3,354.38	3,320.56
Street Sales by Children	200.00	200.00	184.00
Unexpended Balance			831.24
	$64,700.00	$66,550.00	$66,550.00

LEGAL AND CLAIMS.

Salary	$5,000.00	$5,000.00	$5,000.00
Assistant Counsel	1,500.00	1,500.00	1,290.00
Claims	1,500.00	4,300.00	4,089.91
Expense	1,500.00	1,700.00	1,674.17
Unexpended Balance			445.92
	$9,500.00	$12,500.00	$12,500.00

CITY COURT.

Salaries	$4,000.00	$4,000.00	$4,000.00
Marshal	500.00	556.28	556.28
Messenger	500.00	562.47	562.47
Jury Fees	500.00	333.46	333.46
Expense	1,000.00	1,166.54	1,166.54
Clerk's Expense		500.00	482.04
Unexpended Balance			17.96
	$6,500.00	$7,118.75	$7,118.75

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POLICE COURT.

	Appropriation	Amended	Expended
Salaries	$5,800.00	$5,762.49	$5,762.49
Associate Judge	500.00	613.00	613.00
Probation Officer	1,460.00	1,464.00	1,464.00
Juvenile Probation Officer	1,460.00	1,464.00	1,464.00
Expense	1,130.00	1,089.51	1.087.47
Assistant Clerk	150.00	107.00	107.00
Unexpended Balance			2.04
	$10,500.00	$10,500.00	$10,500.00

PROBATE COURT.

Record Books	$250.00	$126.00	$126.00
Miscellaneous	250.00	469.90	429.16
Steel Filing Cases and Furniture	500.00	404.10	404.10
Unexpended Balance			40.74
	$1,000.00	$1,000.00	$1,000.00

LIQUOR PROSECUTIONS.

Recommended Appropriation	$500.00	$500.00	$202.86
Unexpended Balance			297.14
	$500.00	$500.00	$500.00

COMMON COUNCIL.

Clerk	$400.00	$400.00	$400.00
Messengers	200.00	200.00	200.00
Committees and Incidentals	900.00	1,008.60	508.20
Blocks and Gavels	280.00	180.00	180.00
City Manual	150.00	150.00	91.50
Journals	2,500.00	3,100.00	2,906.14
Municipal Register	1,200.00	1,341.40	1,341.40
Unexpended Balance			752.76
	$5,630.00	$6,380.00	$6,380.00

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MISCELLANEOUS.

	Appropriation	Amended	Expended
Band Concerts	$1,200.00	$1,200.00	$1,199.00
G. A. R. Memorial Day	500.00	500.00	500.00
Volunteer Firemen's Memorial Day	150.00	150.00	150.00
Port Warden	25.00	25.00	25.00
Jury Commission	80.00	80.00	80.00
Trustees Catholic Apostolic Church		120.00	120.00
Fourth of July Celebration		500.00	300.00
Unexpended Balance			201.00
	$1,955.00	$2,575.00	$2,575.00

JUVENILE COMMISSION.

Expense	$500.00	$500.00	$464.67
Investigator		1,000.00	357.93
Unexpended Balance			677.40
	$500.00	$1,500.00	$1,500.00

COMMISSION ON THE CITY PLAN.

Expense	$800.00	$800.00	$638.69
Hucksters' Market		1,200.00	1,168.97
Unexpended Balance			192.34
	$800.00	$2,000.00	$2,000.00

PUBLIC DOCK COMMISSION.

Rent	$1,250.00	$1,312.50	$1,312.50
Expense	750.00	750.00	600.00
Unexpended Balance			150.00
	$2,000.00	$2,062.50	$2,062.50

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PUBLIC BUILDINGS.

	Appropriation	Amended	Expended
City Hall —			
Janitor's Salary	$1,200.00	$1,200.00	$1,190.00
Coal, Repairs, etc.	4,000.00	4,393.91	4,377.54
Halls of Record —			
Janitor's Salary	1,100.00	1,100.00	1,089.17
Coal, Repairs, etc	2,000.00	1,865.92	1,865.92
Other City Buildings	500.00	248.07	248.07
Decoration of Buildings		142.10	142.10
Unexpended Balance			37.20
	$8,800.00	$8,950.00	$8,950.00

PUBLIC BATHS.

Expense	$200.00	$200.00	

WATER.

1,260 Fire Hydrants at $2.00	$2,52000	$2,520.00	$2,520.00
15 Drinking Fountains at $2.00	30.00	30.00	30.00
New Hydrants, Renewals, etc.	10,450.00	10,450.00	8,815.67
Hydrant Signs		100.00	100.00
Unexpended Balance			1,634.33
	$13,000.00	$13,100.00	$13,100.00

PUBLIC LIBRARY.

Recommended Appropriation	$21,000.00	$21,000.00	$21,000.00

ADVERTISING

Recommended Appropriation	$5,000.00	$7,000.00	$7,000.00

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POLICE BENEFIT FUND.

	Appropriation	Amended	Expended
Under the authority of the General Statutes, the Board of Finance recommended an Appropriation ...	$7,500.00	$7,500.00	$7,500.00

FIREMEN'S RELIEF FUND.

Under the authority of the General Statutes, the Board of Finance recommended an Appropriation ...	$8,000.00	$8,000.00	$8,000.00

PERSONAL TAX.

Collectors and Canvassers	$1,500.00	$3,836.53	$3,836.10
Supervision by Registrars	1,000.00	1,000.00	1,000.00
Clerk	720.00	720.00	720.00
Incidentals	100.00	1,613.10	1,613.10
Unexpended Balance			.43
	$3,320.00	$7,169.63	$7,169.63

MILITARY ASSESSMENT.

Recommended by Board of Finance ...	$20,000.00	$20,200.00	$18,541.47
Unexpended Balance			1,658.53
	$20,000.00	$20,200.00	$20,200.00

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MAYOR.

	Appropriation	Amended	Expended
Salary	$3,500.00	$3,500.00	$3,479.17
Secretary	720.00	970.00	902.42
Expense	400.00	400.00	356.62
Unexpended Balance			131.79
	$4,620.00	$4,870.00	$4,870.00

COLLECTOR.

Salary	$4,000.00	$4,000.00	$3,983.34
Clerks	5,350.00	5,350.00	5,320.84
Collection of Personal Tax	1,800.00	811.97	811.97
Committee on Abatement of Taxes	300.00	300.00	300.00
Expense	2,520.00	2,561.50	2,541.14
Unexpended Balance			66.18
	$13,970.00	$13,023.47	$13,023.47

TREASURER.

Salary	$4,000.00	$4,000.00	$3,983.34
Clerk	1,800.00	1,800.00	1,800.00
Stenographer	720.00	720.00	690.00
Surety Bonds	700.00	740.25	740.25
Expense	500.00	459.75	438.32
Unexpended Balance			68.09
	$7,720.00	$7,720.00	$7,720.00

CONTROLLER.

Salary	$2,500.00	$2,500.00	$2,483.34
Clerk	1,200.00	1,150.00	1,067.42
Stenographer	720.00	720.00	710.00
Expense	600.00	650.00	630.92
Unexpended Balance			128.32
	$5,020.00	$5,020.00	$5,020.00

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CITY CLERK.

	Appropriation	Amended	Expended
Salary	$2,000.00	$2,000.00	$2,000.00
Assistant	1,500.00	1,500.00	1,500.00
Clerk Hire	600.00	600.00	600.00
Messenger	60.00	60.00	60.00
Expense	2,640.00	2,640.00	2,467.58
Printing General Indices	4,000.00	4,000.00	3,255.20
Preparing for Printing Indices	1,000.00	1,000.00	172.45
Unexpended Balance			1,744.77
	$11,800.00	$11,800.00	$11,800.00

ASSESSORS.

Salaries	$7,500.00	$7,500.00	$7,462.50
Clerks	2,400.00	2,400.00	2,389.74
Board of Relief	1,600.00	1,600.00	1,600.00
Ratemaker and Expense	410.00	410.00	404.00
Expense	650.00	800.00	760.27
Unexpended Balance			93.49
	$12,560.00	$12,710.00	$12,710.00

REGISTRARS.

Salaries	$4,800.00	$4,800.00	$4,800.00
Clerk	720.00	720.00	714.66
Elections	1,700.00	1,702.00	1,702.00
Printing	2,600.00	2,600.00	2,595.00
Incidentals	200.00	198.00	196.18
Unexpended Balance			12.16
	$10,020.00	$10,020.00	$10,020.00

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SELECTMEN.

	Appropriation	Amended	Expended
Rental of Booths	$1,850.00	$1,844.40	$1,844.40
Meetings	600.00	561.96	561.96
Town Clerk and Printing	600.00	849.69	849.69
Insurance and Storage	300.00	255.83	255.83
Demonstrating	375.00	402.00	402.00
Fence Viewings	150.00	192.00	192.00
Carting, Carriages and Incidentals	600.00	511.67	511.67
Registration	660.00	799.00	799.00
	$5,135.00	$5,416.55	$5,416.55

MARSHAL.

Salary	$500.00	$500.00	$500.00
Expense	65.00	65.00	65.00
	$565.00	$565.00	$565.00

BUILDING INSPECTOR.

Salary	$2,500.00	$2,500.00	$2,500.00
Assistant	1,500.00	1,500.00	1,479.16
Clerk	720.00	720.00	715.00
Transportation	300.00	300.00	300.00
Expense	300.00	300.00	297.91
Unexpended Balance			27.93
	$5,320.00	$5,320.00	$5,320.00

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SEALER.

	Appropriation	Amended	Expended
Salary	$1,400.00	$1,400.00	$1,391.67
Clerk	840.00	840.00	818.33
City Scale Weigher	300.00	300.00	300.00
City Scale	50.00	50.00	35.68
Transportation	600.00	600.00	600.00
Charcoal Baskets	50.00	50.00	
Expense	250.00	250.00	198.69
Unexpended Balance			145.63
	$3,490.00	$3,490.00	$3,490.00

CONNECTICUT RIVER BRIDGE — MAINTENANCE ACCOUNT.

Hartford's Proportion of Maintenance.	$15,000.00	$15,000.00	$12,471.49
Unexpended Balance			2,528.51
	$15,000.00	$15,000.00	$15,000.00

SIDEWALKS.

Construction and Repairs	$6,081.26

SEWERS.

Construction, Inspectors, etc.	$29,646.69

STREET IMPROVEMENTS.

Damages to Street and Building Lines	$8,887.97

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HIGH SCHOOL BUILDING COMMISSION.

	Appropriation	Amended	Expended
Expense	$5,000.00	$5,000.00	$172.45
Unexpended Balance			4,827.55
	$5,000.00	$5,000.00	$5,000.00

PERMANENT IMPROVEMENTS.

	Appropriation	Expended Present Fiscal Year	Total Amount Expended
Minor Permanent Improvements	$70,000.00		
New Engine House No. 3.	67,000.00	$461.22	$62.654.71
East Side Intercepting Sewer	250,000.00	50,957.71	200,063.92
Public House of Comfort	25,000.00		10.20
Public Bath	7,330.00		
Police Signal System	25,000.00		
Purchase Kinsella & Smith Property	15,000.00	15,000.00	15,000.00
Additional High School Site	200,000.00		199,881.64
New High School	450,000.00		
Municipal Building Site	170,000.00	89.84	155,881.64
Municipal Building	1,400,000.00	154,862.41	170,785.96
Park Grading — Colt Park	10,000.00	10,000.00	10,000.00
	$2,689,330.00	$231,371.18	$814,278.07

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EXTRA APPROPRIATIONS.

Street	$1,023.33
Charity	5,000.00
Health	675.67
Park	2,500.00
School Visitors	1,850.00
Legal and Claims	3,000.00
City Court	618.75
Common Council	750.00
Miscellaneous	620.00
Juvenile Commission	1,000.00
Commission on the City Plan	1,200.00
Public Dock Commission	62.50
High School Building Commission	5,000.00
Public Buildings	150.00
Public Bath	200.00
Water	100.00
Advertising	2,000.00
Personal Tax	2,903.10
Military Assessment	200.00
Mayor	250.00
Assessors	150.00
Selectmen	281.55
	$29,534.90

CASH DISCOUNTS SECURED ON BILLS PAID PROMPTLY UPON AUDITING COMMITTEE'S APPROVAL.

Street	$93.60
Common Council	36.83
Police	22.90
Fire	20.00
Public Buildings	2.90
	$177.13

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RECAPITULATION.

	Amended Appropriation	Expended Fiscal Year	Balance
Street	$486,523.33	$465,867.56	$20,655.77
Engineering	28,600.00	28,335.50	264.50
Fire	259,350.00	259,350.00	
Police	208,787.81	202,653.13	6,134.68
Charity	133,000.00	132,878.39	121.61
Health	26,675.67	26,622.43	53.24
Park	80,500.00	80,500.00	
High School	138,000.00	137,464.53	535.47
School Visitors	66,550.00	65,718.76	831.24
Legal and Claims	12,500.00	12,054.08	445.92
Police Court	10,500.00	10,497.96	2.04
City Court	7,118.75	7,100.79	17.96
Probate Court	1,000.00	959.26	40.74
Common Council	6,380.00	5,627.24	752.76
Miscellaneous	2,575.00	2,374.00	201.00
City Plan Commission	2,000.00	1,807.66	192.34
Public Dock Commission	2,062.50	1,912.50	150.00
Public Buildings	8,950.00	8,912.80	37.20
Water	13,100.00	11,465.67	1,634.33
Public Library	21,000.00	21,000.00	
Advertising	7,000.00	7,000.00	
Police Benefit Fund	7,500.00	7,500.00	
Firemen's Relief Fund	8,000.00	8,000.00	
Personal Tax	7,169.63	7,169.20	.43
Mayor	4,870.00	4,738.21	131.79
Collector	13,023.47	12,957.29	66.18
Treasurer	7,720.00	7,651.91	68.09
Controller	5,020.00	4,891.68	128.32
City Clerk	11,800.00	10,055.23	1,744.77
Assessors	12,710.00	12,616.51	93.49
Registrars	10,020.00	10,007.84	12.16
Selectmen	5,416.55	5,416.55	
Marshal	565.00	565.00	
Building Inspector	5,320.00	5,292.07	$27.93
Sealer of Weights and Measures	3,490.00	3,344.37	145.63

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	Amended Appropriation	Expended Fiscal Year	Balance
Juvenile Commission	1,500.00	822.60	677.40
Public Bath	200.00		200.00
Assessed —			
Sewers	29,646.69	29,646.69	
Sidewalks	6,081.26	6,081.26	
Street Improvements	8,887.97	8,887.97	
Liquor Prosecutions	500.00	202.86	297.14
Schools	150,733.88	148,714.63	2,019.25
Conn. River Bridge Maintenance	15,000.00	12,471.49	2,528.51
Military Assessment	20,200.00	18,541.47	1,658.53
High School Building Commission	5,000.00	172.45	4,827.55
Permanent Improvements	Balance Apr. 1, 1912		
New Engine House, No. 3	4,806.51	461.22	4,345.29
East Side Intercepting Sewer	100,893.79	50,957.71	49,936.08
Kinsella & Smith Property	15,000.00	15,000.00	
Municipal Building Site	14,208.20	89.84	14,118.36
Municipal Building	1,384,076.45	154,862.41	1,229,214.04
Colt Park Grading	10,000.00	10,000.00	
	$3.391,532.46	$2,047,220.72	$1,344,311.74

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Condensed Inventory of Real Estate and Personal Property

COMPLETE INVENTORY ON FILE IN CONTROLLER'S OFFICE.

PARK DEPARTMENT.

	Value Real Estate	Value Personal Property
Goodwin Park —		
Land and Buildings	$166,776.57	
Tools and Supplies		$1,589.50
Colt Park —		
Land and Buildings	94,565.04	
Tools and Supplies		11,305.72
Elizabeth Park —		
Land and Buildings	251,524.28	
Tools and Supplies		7,322.91
Greenhouse Plants		5,358.42
Nursery and Perennials		1,078.66
Bushnell Park —		
Land and Buildings	1,044,950.15	
Tools and Supplies		2,349.17
Pope Park —		
Land and Buildings	213,794.22	
Tools and Supplies		2,282.46
Riverside Park —		
Land and Buildings	130,124.06	
Tools and Supplies		1,189.44
Rocky Ridge Park —		
Land and Buildings	21,173.99	
Sigourney Square, Land	60,000.00	
Barnard Park, Land	75,000.00	
Ancient Cemetery, Land	50,000.00	
Buckingham Square, Land	10,500.00	

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	Value Real Estate	Value Personal Property
Lafayette Square, Land	15,000.00	
Franklin Square, Land	2,000.00	
Village Street Square, Land	4,500.00	
Campfield, Land	2,500.00	
Asylum Avenue Green, Charter Oak, Washington Street Triangle	Not Valued	
Superintendent's Office, Supplies and Furniture		$527.75
Secretary's Office, Supplies and Furniture		460.50
	$2,142,408.31	$33,464.53
Total Amount of Inventory,	$2,175,872.84	

CEMETERIES.

Old North —		
Land and Buildings	$21,772.50	
Tools and Supplies		$808.63
Zion Hill —		
Land and Buildings	79,195.00	
Tools and Supplies		487.65
Old South —		
Land	2,000.00	
	$102,967.50	$1,296.28
Total Amount of Inventory,	$104,263.78	

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POLICE DEPARTMENT.

	Value Real Estate	Value Personal Property
Land and Buildings	$128,040.00	
Contents of:		
Chief's Office and Private Office		$538.20
Captain's Office		168.70
Detectives' Office		534.75
Main Office		939.15
Commissioners' Room		386.95
Sergeants' Room		310.33
Patrolmen's Quarters		3,542.70
Hospital		221.50
Barn		8,499.80
Dormitory		281.00
Police Court		656.50
Judge's Office		95.00
Prosecuting Attorney's Office		87.50
Clerk's Office		566.50
Bertillon Room		740.00
Women's Prison		143.55
Cell Room		50.00
Boiler Room		256.75
Morgue		10.00
Storeroom		403.50
Miscellaneous		234.25
	$128,040.00	$18,666.63

Total Amount of Inventory, $146,706.63

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BOARD OF SELECTMEN.

	Value Real Estate	Value Personal Property
Voting Machines, Ballot Boxes, Booths, etc.		$15,678.00

COMMISSION ON THE CITY PLAN.

Office Furniture and Supplies	$188.66

STREET DEPARTMENT.

Land and Buildings	$27,890.00	
Steam Roller and Tools		$15,846.77
Contents of Machine Shop, etc		16,649.73
Contents of Office, City Hall		1,108.55
	$27,890.00	$33,605.05
Total Amount of Inventory,	$61,495.05	

ENGINEERING DEPARTMENT.

Contents of Office, City Hall		$43,864.17
Contents of Laboratory, City Hall		889.17
		$44,753.34
Total Amount of Inventory,	$44,753.34	

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CHARITY DEPARTMENT.

	Value Real Estate	Value Personal Property
Almshouse —		
Land and Buildings	$159,400.00	
Contents of Main Building		$25,534.48
" " Barn, Sheds, etc.		3,564.95
" " Office, 222 Pearl Street		1,746.50
" " Storeroom and Dispensary		157.50
Children's Home —		
Buildings, etc.	18,600.00	
Contents of Children's Home		2,488.53
	$178,000.00	$33,491.96

Total Amount of Inventory, $211,491.96

BOARD OF SCHOOL VISITORS.

District Text-Books	$45,462.19
High School Text-Books	16,862.58
Contents of Out Door School	1,300.00
" " Evening School	5,550.00
" " Office	367.00
Sewing Supplies	1,916.49
Cooking Utensils	5,811.39
Manual Training Equipment	8,801.57
	$86,071.22

Total Amount of Inventory, $86,071.22

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HIGH SCHOOL.

	Value Real Estate	Value Personal Property
Cost of Building in 1884	$250,000.00	
Equipment of same, Furniture and Library		$35,000.00
Cost of Addition to Building in 1897	190,000.00	
Cost of Manual Training Building in 1897	28,500.00	
Additional Rooms finished in 1903	16,000.00	
Equipment of Additional Rooms in 1897		39,500.00
Equipment of Manual Training Building in 1897		10,000.00
Value of Property at 625 Asylum Avenue	10,000.00	
Value of Land, Hopkins Street and Asylum Avenue	61,500.00	
Cost of Equipment of New Rooms in 1904		950.00
Additional Equipment for Manual Training in 1905 and 1907		9,400.00
	$556,000.00	$94,850.00
Total Amount of Inventory,	$650,850.00	

HEALTH DEPARTMENT.

Contagious Hospital, Land and Wagon Shed	$6,250.00	
Contents of Contagious Hospital and Shed		$552.00
Plumbing Department		216.00
Laboratory Fixtures and Utensils		1,944.59
Contents of Office		1,601.25
	$6,250.00	$4,313.84
Total Amount of Inventory,	$10,563.84	

MISCELLANEOUS.

Land purchased of Colt Estate	$1,000.00

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FIRE DEPARTMENT.

	Value Real Estate	Value Personal Property
Engine Houses and Land	$315,000.00	
Engines		$59,000.00
Wagons		60,000.00
Horses		10,000.00
Harness		2,500.00
Hose		16,000.00
Fire Alarm		48,000.00
Furniture		6,000.00
	$315,000.00	$201,500.00

Total Amount of Inventory, $516,500.00

CONTENTS OF OFFICES OF OFFICIALS.

Assessors' Office	$7,236.50
Building Inspector's Office	440.20
City Court	686.25
Collector's Office	2,011.80
Controller's Office	388.00
Mayor's Office	588.00
Personal Tax Office (City Hall)	406.00
Registrars' Office (Personal Tax Dept.)	151.00
Registrars' Office	135.00
Sealer's Office	678.84
Town Clerk's Office	18,156.55
Treasurer's Office	695.00
	$31,573.14

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PUBLIC BUILDINGS.

	Value Real Estate	Value Personal Property
City Hall—		
Land and Buildings	$577,500.00	
Sheldon Street Coffee House	1,800.00	
Contents of Cellar and Janitor's Room		$2,500.00
Aldermen's Chamber not including City Court		500.00
Councilmen's Chamber		340.00
Tools and Supplies		639.80
Halls of Record—		
Land and Buildings	40,000.00	
Contents of Cellar and Janitor's Room		1,304.50
Tools and Supplies		473.85
	$619,300.00	$5,758.15
Total Amount of Inventory,	$625,058.15	

CORPORATION COUNSEL.

Office Furnishings, Law Books, etc.	$450.00

BOARD OF WATER COMMISSIONERS.

Office (City Hall)	$11,329.70
Engineering Department	10,615.61
Main Pipe Department (Union St. Yard)	14,613.29
Main Pipe Department (New Park Ave. Yard)	9,583.19
Main Pipe Department Tools	1,126.98
Service Pipe Department	7,049.18
Service Pipe Department Tools	858.90
Meter Department	7,574.28
Meter Department Tools	134.15
Meter Repairers' Tools	19.70
Hydrant Department	1,824.40

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	Value Real Estate	Value Personal Property
Hydrant Tools		68.10
Union Street Shop Tools		643.75
Union Street Blacksmith's Shop		653.43
Union Street Stock Room Tools		164.54
Union Street Carpenter's Tools		27.30
Union Street Machine Shop (Machinery and Tools)		985.41
Union Street Painting Department (Stock and Tools)		24.38
Union Street Barn, Horses, Automobile, etc.		2,072.90
General Repair Tools		228.51
Pumping Station Tools, etc.		998.37
Distribution, Pipes, etc.		1,736,325.93
Meters		236,645.20
Old Pumping Plant		500.00
Worthington Pumps		4,500.00
Union Street Yard and Buildings	$8,000.00	
Pump House, Lot and Buildings	8,000.00	
Garden Street Reservoir, Lot and Gate House	50,000.00	
Land in North Meadows (19 acres)	600.00	
New Park Avenue Storage Yard	16,000.00	
Land in New Hartford	450.00	
Reservoirs No. 1, 2, 3, 4, 5, and 6	1,484,136.28	
	$1,567,186.28	$2,048,567.20
Total Amount of Inventory,	$3,615,753.48	

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RECAPITULATION.

	Value Real Estate	Value Personal Property
Park Department	$2,142,408.31	$33,464.53
Park Department (Cemeteries)	102,967.50	1,296.28
Police Department	128,040.00	18,666.63
Selectmen		15,678.00
Commission on the City Plan		188.66
Street Department	27,890.00	33,605.05
Engineering Department		44,753.34
Charity Department	178,000.00	33,491.96
School Visitors		86,071.22
High School	556,000.00	94,850.00
Health Department	6,250.00	4,313.84
Miscellaneous	1,000.00	
Fire Department	315,000.00	201,500.00
Contents of Offices of Officials		31,573.14
Public Buildings	619,300.00	5,785.15
Corporation Counsel		450.00
Water	1,567,186.28	1,048,567.20
	$5,644,042.09	$1,654,228.00

Grand Total, $7,298,270.09

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REPORT

OF THE

BOARD OF FINANCE

WITH

ESTIMATES AND RECOMMENDATIONS

FOR THE

CITY YEAR 1913-1914

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REPORT.

HARTFORD, CONN., March 10, 1913.

To the Honorable Court of Common Council,
HARTFORD, CONNECTICUT.

GENTLEMEN: The Board of Finance respectfully submits herewith its eighth annual report of the estimated receipts and proposed appropriations for the ensuing fiscal year, in accordance with an Act of the General Assembly of the State of Connecticut, passed at its January session, 1905, amending the Charter of the City of Hartford.

The Board have to announce that it will be necessary to increase the tax rate three-quarters of a mill for City expenses. The Act amending the Charter of the City of Hartford, concerning taxation for school purposes, approved at city meeting, April 4, 1911, now before the General Assembly, provides for a city school tax of five mills instead of a one mill tax, as formerly. It is also necessary to lay an additional tax of one mill in order to meet a corresponding rate for State and County taxes, which we are informed will be assessed for the ensuing year.

In this connection, you are respectfully reminded that, upon recommendation of this Board, a reduction of three-quarters of a mill in the rate for the present year was made possible by the non-assessment of a corresponding tax rate for State and County taxes.

We respectfully request your Honorable Body and, through you, the taxpayers of the City to give careful consideration to the following summary of the necessary increase of estimated receipts and proposed increased appropriations over those made

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for the present year, eliminating therefrom the State, County, and School taxes for basis of comparison of the maintenance expenses for two years:

	Present tax rate	Proposed tax rate
City expenses . .	14¾ mills	15½ mills
School . . .	1	5
State and County .	..	1
	15¾ mills	21½ mills

INCREASED RECEIPTS.

Eliminating State, County and School Taxes.

Taxes for 1913-14 — 21½ mills		
Less 5 mills for School and 1 mill for State and County Taxes		
15½ mill tax for City Expenses . .		$1,552.050.00
Taxes for 1912-13 — 15¾ mills		
Less 1 mill for School		
14¾ mill tax for City Expenses . . .		1,394,893.00
Increase of Taxes		$ 157,157.00
Other Sources, 1913-14 . .	$818,809.88	
Less Corporation Stock Taxes, scheduled gross instead of net, as has been customary . .	90,000.00	
	$728.809.88	
Other Sources, 1912-13 . .	671,088.88	57,721.00
Total Increase of Receipts		$ 214,878.00

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PROPOSED INCREASED APPROPRIATIONS.

Street Department.

Additional Fixed Expense		
Ashes and Garbage . .	$22,500.00	
Extra lighting in business section . . .	24,000.00	
	$46,500.00	
Overcome to the extent of $37,000.00 by cutting, in nearly every case, necessary items for the efficient management of the Department		
Total Proposed Increase		$ 9,500.00

Fire Department.

Additional Fixed Expense		
Increase of Salaries . .	$26,650.00	
New men authorized April 1, 1912, but not appointed . . .	6,300.00	
	$32,950.00	
Total Proposed Increase		$ 20,650.00

Police Department.

New Patrol Wagon, $4,550.00; additional expense for Supernumerary Service, Telegraph Equipment, etc. . . .	$ 9,025.00

Charity Department.

Appropriation for 1912-13 insufficient; an extra appropriation of $5,000.00 was necessary	$ 10,000.00

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SCHOOLS.

Increased proportion of Corporation Stock Taxes payable to School Districts, due to the flat rate of a five mill tax for all of the School Districts under the Equalization Act.

No provision is made for a further proportionment, on account of additional taxes which may be laid by any of the School Districts . . . . . $ 28,000.00

HIGH SCHOOL.

This proposed increase has received our most careful consideration and we do not deem it advisable to curtail in the matter of education.

The increase is due largely to the employment of teachers for the greatly increased attendance; also to new plumbing, repairs, etc. . . . . $ 32,000.00

INTEREST.

To cover six months' interest on new indebtedness for High School, Municipal Building, etc. . . . . $ 52,750.00

STATE AND COUNTY TAXES.

To cover addition of $18,000,000.00 to Grand List by State Board of Equalization . $ 13,381.68

PERMANENT IMPROVEMENTS.

Increased from $70,000.00 to $85,000.00

We believe this increase is justifiable, in view of the numerous authorized and proposed improvements. The policy of the City in paying for "Minor Improvements" as far as possible should be continued . . . . . $ 15,000.00

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SINKING FUND.

To cover one mill tax on increased Grand List	$ 5,575.00

CONTINGENT FUND.

The Contingent Fund provided for the present year is insufficient to cover the extra appropriations made. As a conservative precaution this proposed increase is necessary	$ 8,391.32

ALL OTHER DEPARTMENTS.

Net increase	$ 10,605.00
	$ 214,878.00

Of the above enumerated increased expenses, amounting to $214,878.00, practically every item is an additional fixed charge. While we did cut, possibly unwisely, items in the requests of the Boards of Street and Fire Commissioners in order to reduce the total of the requests for appropriations of these Departments, this course could not have been followed in any of the other items, except that of the increase for Permanent Improvements; this item could have been left at $70,000.00 instead of being increased to $85,000.00.

During the past eight years there has been expended under the head of Minor Permanent Improvements the sum of $874,-579.40. Had there not been a gradually increasing appropriation for this item, a greater portion of this sum would be a fixed indebtedness today. We are firm in our belief that your Honorable Body, and the taxpayers generally, will approve of the business principle of paying for these improvements as far as possible out of current revenue.

The Grand List of October 1, 1912, as estimated by the Board of Assessors, amounts to $99,900,000.00; the Farm List to $600,000.00. We respectfully recommend that a tax of

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twenty-one and one-half (21½) mills on the dollar (which rate includes one mill for Sinking Fund, five mills for Schools and one mill for State and County Taxes) be laid on the Grand List, and a tax of six (6) mills on the dollar be laid on the Farm List.

We estimate that the revenue from all other sources will amount to $818,809.88.

ESTIMATED RECEIPTS.

21½ mill Tax on Grand List of	$99,900,000.00	$2,147,850.00
6 mill Tax on Farm List of	600,000.00	3,600.00
All other sources		818,809.88
		$2,970,259.88
Appropriations recommended		$2,970,259.88

A detailed statement of the estimated receipts and proposed appropriations follows.

Respectfully submitted,

LOUIS R. CHENEY, President,
HENRY E. CHURCH,
FRANCIS R. COOLEY,
FRANK P. CLINE,
WILLIAM B. BASSETT,
CHARLES H. ROBINS,
CHARLES H. SLOCUM,

The Board of Finance.

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APPROPRIATIONS

Street Department

ROADMAKING AND REPAIRS.		
Grading and Turnpiking	$18,500.00	
Macadamizing	38,000.00	
Resurfacing and Repairs	42,000.00	
IMPROVED PAVING AND REPAIRS.		
General Repairs	8,000.00	
Front Street, State to Morgan Street	14,593.00	
Morgan Street	6,188.00	
Marsh Court	1,483.00	
Pleasant Street	6,901.00	
Farmington Avenue	19,635.00	
Main Street at Tunnel	3,730.00	
Spruce Street	7,678.00	
Automobiles	2,000.00	
Ashes and Garbage	57,500.00	
Bridges	4,000.00	
Cross and Sidewalks	8,50000	
Culverts and Inlets	14,000.00	
Forestry	6,000.00	
Incidentals	3,000.00	
Office Expenses	4,600.00	
Salaries	14,100.00	
Sewer Repairs	10,300.00	
Steam Roller Repairs	2,000.00	
Storehouse and Yard	3,292.00	
Street Cleaning	67,000.00	
Street Sprinkling	35,000.00	
Street Lighting	92,000.00	
To apply on Jewell Street and Park River Improvement	5,000.00	
		$495,000.00

Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

1902-3	$329,623.28
1903-4	326,687.18

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1904-5	$317,754.52
1905-6	299,067.68
1906-7	315,691.83
1907-8	332,982.93
1908-9	357,833.40
1909-10	322,419.90
1910-11	340,162.59
1911-12	433,699.20

Engineering Department.

Salaries	$15,080.00
Employees	11,020.00
Supplies and Equipment	2,200.00
Merestones	500.00
Transportation	1,200.00
	$30,000.00

Annual expenditures for the past eight years, not including the fiscal year just ending, are as follows:

1904-5	$20,350.59
1905-6	17,663.45
1906-7	20,513.09
1907-8	21,441.01
1908-9	28,271.00
1909-10	26,197.23
1910-11	27,422.98
1911-12	25,678.04

Fire Department.

Pay-roll	$218,200.00
Apparatus and Repairs Coal and Wood for Engines Machinery and Tools New Apparatus	12,225.00
Real Estate and Repairs	6,500.00
Furniture and Bedding	1,200.00
Lighting	2,200.00
Water and Ice	1,000.00
Washing	1,000.00
Rent	500.00

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Horseshoeing	$1,200.00	
Extra Horse Hire	500.00	
Forage	7,200.00	
Harness and Repairs	250.00	
Veterinary	200.00	
Hose and Repairs	5,250.00	
Printing and Stationery	950.00	
General Supplies	3,250.00	
Wagons, Trucks and Hose Carriages	7,000.00	
Coal for Heating	4,750.00	
Telephones	1,150.00	
Fire Alarm	4,225.00	
Uniforms	250.00	
Incidentals	1,000.00	
		$280,000.00

Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

1902-3	$121,856.96
1903-4	131,711.57
1904-5	134,653.53
1905-6	145,603.86
1906-7	154,354.27
1907-8	164,078.00
1908-9	175,956.69
1909-10	195,982.53
1910-11	205,638.90
1911-12	239,837.49

Police Department.

Salaries of Officers, 126 Patrolmen and 3 Drivers,	$172,000.00	
Supernumerary Service and 6 Dormitory Men	4,890.00	
Sick Time	1,500.00	
Vacation Time	9,610.00	
		$188,000.00

EMPLOYEES.

Commissioner's Clerk	$250.00
Chief's Clerk	720.00
Dog Warden	939.00

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Janitors, etc. . .	$1,971.00	
Matron . . .	620.00	
Telephone Operators .	1,200.00	
		$5,700.00
Ambulance and Surgeons . .		2,500.00
Care of Prisoners . . .		500.00
Insurance		150.00
Motor Cycles and Bicycles . .		1,000.00
Office Expenses		1,400.00
Patrol Wagon Service . . .		2,000.00
Patrol Wagon (new) . . .		4,550.00
Station House Repairs . . .		1,500.00
Station House Supplies . . .		4,500.00
Telegraph Equipment . . .		2,200.00
		$214,000.00

Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

1902-3	$126,909.77
1903-4	127,498.89
1904-5	129,593.28
1905-6	132,822.39
1906-7	150,911.13
1907-8	146,799.88
1908-9	163,633.16
1909-10	161,550.15
1910-11	190,029.89
1911-12	191,493.99

Charity Department

Almshouse	$70,000.00	
Hospitals	50,350.00	
Outdoor Poor	6,000.00	
Office Expenses	6,250.00	
Miscellaneous	5,400.00	
		$138,000.00

Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

1902-3	$88,878.87
1903-4	91,000.00

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1904-5	$113,383.49
1905-6	107,727.01
1906-7	113,900.00
1907-8	109,000.00
1908-9	123,832.69
1909-10	123,255.76
1910-11	122,684.48
1911-12	127,988.69

Health Department.

SALARIES.		
Superintendent	$2,500.00	
Assistant Clerk	1,500.00	
Plumbing Inspector	1,500.00	
4 Medical Inspectors	2,400.00	
Bacteriologist	1,200.00	
		$9,100.00
EMPLOYEES.		
Milk Inspector, including transportation	$2,100.00	
Chief Sanitary Inspector, including transportation	1,600.00	
Inspector, including transportation	1,300.00	
Food Inspector, including transportation	1,400.00	
Assistant Food Inspector, including transportation	1,100.00	
Assistant Plumbing Inspector, including transportation	1,500.00	
Assistant Bacteriologist	600.00	
Clerical Assistance	1,164.00	
Janitor	144.00	
		10,908.00
TRANSPORTATION.		
Superintendent	$600.00	
Plumbing Inspector	600.00	
		1,200.00
Ambulance		450.00
Hucksters' Market		675.00
Laboratory		1,000.00
Printing, Postage and Stationery		800.00
Rent		1,200.00

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Return Fees		$1,700.00
Vaccinations		350.00
Miscellaneous		1,417.00
		$28,800.00

Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

1902-3	$27,743.39
1903-4	18,452.80
1904-5	15,437.47
1905-6	15,001,87
1906-7	16,902.32
1907-8	19,235.56
1908-9	20,891.54
1909-10	21,366.84
1910-11	22,237.88
1911-12	23,028.04

Park Department.

General expense, maintenance and improvement, including office expenses, salaries, etc.		$64,404.00
GOODWIN PARK.		
Resurfacing Road	$1,000.00	
Water for Golf	550.00	
New Tennis Courts	450.00	2,000.00
COLT PARK.		
Additional Lighting	$500.00	
Fence for Tennis Courts	500.00	
Backstops and Fence for Ball Grounds	500.00	1,500.00
ELIZABETH PARK.		
Toilets	$1,500.00	
Four Tennis Courts	900.00	
Additional Lighting	500.00	2,900.00
POPE PARK.		
Grading North Grove	$1,000.00	
Fence for Tennis Courts	500.00	
Resurfacing Parkway	500.00	2,000.00

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Bushnell Park.		
One Motor Lawn Mower .	$1,300.00	
River Wall . . .	800.00	
Walks, Asphalted . .	1,870.00	$3,970.00
Rocky Ridge Park		
Annual Appropriation for Improvements .		1,500.00
Ancient Cemetery.		
Fence		126.00
Campfield Monument Park.		
Fence		400.00
Public Cemeteries.		
Maintenance and Improvements . .		6,200.00
		$85,000.00

Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

	Park	Cemetery
1902-3 . .	$29,149.73	$6,244.12
1903-4 . .	29,887.58	3,890.22
1904-5 . .	38,500.00	4,706.79
1905-6 . .	46,500.00	5,281.53
1906-7 . .	44,800.00	5,176.14
1907-8 . .	55,225.00	5,673.83
1908-9 . .	55,000.00	5,000.00
1909-10 . .	57,500.00	5,000.00
1910-11 . .	64,300.00	6,000.00
1911-12 . .	68,350.00	6,000.00

SCHOOLS.

In General.

Five Mill Tax	$499.500.00	
Corporation Stock Tax Proportion .	118,000.00	
State Appropriation . . .	56,000.00	
Town Deposit Fund Income . .	1,408.88	
		$674,908.88

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Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

1902-3	$101,338.58
1903-4	103,496.04
1904-5	105,891.21
1905-6	106,399.38
1906-7	109,625.88
1907-8	114,535.88
1908-9	119,007.88
1909-10	121,609.13
1910-11	129,174.38
1911-12	142,589.38

High School.

Salaries	$131,500.00
Library and Printing	3,100.00
Light, Fuel, Water	9,000.00
Repairs	4,000.00
Manual Training	1,100.00
Sundries and Science	3,050.00
Evening High School	9,500.00
New Plumbing	8,000.00
Insurance	750.00
	$170,000.00

Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

1902-3	$70,384.86
1903-4	79,098.09
1904-5	77,831.63
1905-6	79,799.57
1906-7	85,979.50
1907-8	98,641.33
1908-9	93,790.55
1909-10	105,699.93
1910-11	116,732.23
1911-12	134,357.15

Board of School Visitors.

Evening Schools	$14,000.00
Vacation Schools	7,000.00
Outdoor School	5,000.00
Superintendent's Salary	2,000.00
Attendance Officer's Salary	1,100.00

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Attendance Officer's Expense	$250.00	
Printing	500.00	
General Expense	800.00	
Office Rent	450.00	
Free Text Books, District	10,800.00	
Free Text Books, High School	3,900.00	
Manual Training.		
Salaries	16,500.00	
Repairs	350.00	
Material and Equipment	2,550.00	
Special.		
Licenses — Street Sales by Children	300.00	
		$65,500.00

Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

1902-3	$43,539.28
1903-4	44,643.13
1904-5	35,748.80
1905-6	41,010.83
1906-7	45,696.20
1907-8	47,997.37
1908-9	50,512.33
1909-10	55,698.47
1910-11	57,064.38
1911-12	59,585.90

LEGAL AND CLAIMS.

Corporation Counsel's Salary	$5,000.00	
Counsel, Assistant Counsel's Fees	1,500.00	
Claims	1,500.00	
Expense	1,500.00	
		$9,500.00

POLICE COURT.

Judge	$2,200.00
Associate Judge	500.00
Prosecuting Attorney	1,800.00
Clerk	1,200.00
Assistant Clerk	150.00

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Probation Officer	$1,460.00	
Juvenile Probation Officer	1,460.00	
Messenger	600.00	
Expense	1,230.00	
		$10,600.00

CITY COURT.

Recorder	$2,500.00	
Clerk	1,500.00	
Clerk's Expense	500.00	
Marshal	600.00	
Messenger	600.00	
Jury Fees	400.00	
Expense	1,000.00	
		$7,100.00

LIQUOR PROSECUTIONS.

We recommend an appropriation of . . . $500.00

PROBATE COURT.

Record Books	$250.00	
Steel Filing Cases and Furniture	250.00	
Miscellaneous	500.00	
		$1,000.00

COMMON COUNCIL.

Clerk	$400.00	
Messengers	200.00	
Committees and Incidentals, including expense of Committee on Building Ordinances, $750.00	1,350.00	
Blocks and Gavels	135.00	
Manual for City Officials	150.00	
Indexing and Printing Journals	3,000.00	
Printing Municipal Register	1,265.00	
		$6,500.00

MISCELLANEOUS.

Band Concerts	$1,200.00	
G. A. R. Memorial Day	500.00	
Port Warden	25.00	
Jury Commission	80.00	
		$1,805.00

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JUVENILE COMMISSION.

Clerical Work, gathering and compiling of statistics and the publication of the Annual Report . .	$1,000.00

CITY PLAN COMMISSION.

Expense	$300.00

PUBLIC DOCK COMMISSION.

Rent	$1,250.00	
Expense	500.00	
		$1,750.00

HIGH SCHOOL BUILDING COMMISSION.

Re-appropriation of amount unexpended on extra appropriation of $5,000.00	$4,750.00

PUBLIC BUILDINGS.

HALLS OF RECORD.			
Janitor's Salary . .	$1,100.00		
Expenses, supplies, repairs, etc. . . .	2,000.00		
		$3,100.00	
CITY HALL.			
Janitor's Salary . .	$1,200.00		
Expenses, supplies, repairs, care of lawn by Park Department, etc. . .	3,500.00		
		4,700.00	
OTHER CITY BUILDINGS.			
Insurance, expense, etc. . . .		500.00	
			$8,300.00

WATER.

1,350 Fire Hydrants @ $2.00 . .	$2,700.00	
15 Drinking Fountains @ $2.00 . .	30.00	
New Hydrants, renewals, etc. . .	5,770.00	
		$8,500.00

PUBLIC LIBRARY.

We recommend an appropriation for this purpose of	$21,000.00

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ADVERTISING.

We recommend an appropriation for general City Advertising of	$6,000.00

POLICE BENEFIT FUND.

Under authority of the General Statutes, we recommend an appropriation of	$7,500.00

FIREMEN'S RELIEF FUND.

Under authority of the General Statutes, we recommend an appropriation of	$8,000.00

PERSONAL TAX.

Canvassers . . .	$1,400.00		
Supervision by Registrars	1,000.00		
Clerk . . .	720.00		
Expense . . .	100.00		
		$3,220.00	
Collectors . . .	$3,000.00		
Clerk . . .	720.00		
Investigator . . .	150.00		
Printing, Postage, Stationery, etc. . . .	1,068.00		
Expense . . .	242.00		
		5,180.00	
			$8,400.00

MILITARY ASSESSMENT.

We estimate the amount required to meet the military Assessment will be	$20,100.00

STATE TAX.

Grand List, October 1, 1911 . .	$95,281,659.00	
Addition by Board of Equalization, June, 1912	18,000,000.00	
	$113,281,659.00	
¾ mill tax		$84,961.26

COUNTY TAX.

Grand List, October 1, 1911 . .	$95,281,659.00	
Addition by Board of Equalization, June, 1912	18,000,000.00	
	$113,281,659.00	
¼ mill tax		$28,320.42

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MAYOR.

Salary	$3,500.00	
Secretary	1,200.00	
Expense	400.00	
		$5,100.00

COLLECTOR.

Salary	$4,000.00	
Clerks	5,350.00	
Committee on Abatement of Taxes	300.00	
Expense	2,170.00	
		$11,820.00

TREASURER.

Salary	$4,000.00	
Clerk	1,800.00	
Stenographer	720.00	
Surety Bonds for Officials	710.00	
Expense	470.00	
		$7,700.00

CONTROLLER.

Salary	$2,500.00	
Clerk	1,200.00	
Stenographer	720.00	
Expense	600.00	
		$5,020.00

CITY CLERK.

Salary		$2,000.00	
Assistant Town Clerk		1,500.00	
Clerk Hire		600.00	
Messenger		60.00	
Expense		1,040.00	
General Indexing	$800.00		
Verification of Land Record Indices	300.00		
Special Indexing	400.00		
Preparing for printing Indices of Land Records of 1905 to 1909 inclusive	1,000.00		
		2,500.00	
			$7,700.00

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ASSESSORS.

Salaries	$7,500.00	
Clerks	2,400.00	
Board of Relief	1,600.00	
Ratemaker and Expense	410.00	
Expense	800.00	
		$12,710.00

REGISTRARS.

Salaries	$4,800.00	
Clerk	720.00	
Election Expenses	850.00	
Printing	1,500.00	
Incidentals	130.00	
		$8,000.00

SELECTMEN.

Rental of Voting Booths	$950.00	
Meetings of the Board	700.00	
Town Clerk and Printing	500.00	
Insurance and Storage	275.00	
Demonstrating, Mechanician, etc.	100.00	
Fence Viewings	175.00	
Carting Expenses, Carriages, etc.	400.00	
		$3,100.00

MARSHAL.

Salary	$500.00	
Expense	75.00	
		$575.00

BUILDING INSPECTOR.

Salary	$2,500.00	
Assistant	1,500.00	
Clerk	720.00	
Transportation	300.00	
Expense	380.00	
		$5,400.00

SEALER.

Salary	$1,400.00	
Clerk	840.00	
City Scale Weigher	300.00	

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Maintenance of City Scale	$50.00	
Transportation	600.00	
Charcoal Baskets	50.00	
Office Equipment and Weights	160.00	
Expense	200.00	
		$3,600.00

CONNECTICUT RIVER BRIDGE—MAINTENANCE ACCOUNT.

Hartford's Proportion of Maintenance	$15,000.00

INTEREST.

Consolidated Water Bonds at 4%	$475,000.00	$19,000.00
Funding Bonds at 4%	290,000.00	11,600.00
Public Improvement Bonds at 3½%	250,000.00	8,750.00
Refunding Capitol Bonds at 3½%	800,000.00	28,000.00
Refunding Town Bonds at 3½%	270,000.00	9,450.00
Police Department Bonds at 3½%	75,000.00	2,625.00
Park Improvement Bonds at 3½%	300,000.00	10,500.00
Paving Bonds at 3½%	220,000.00	7,700.00
High School and Bridge Bonds at 3½%	200,000.00	7,000.00
Connecticut River Bridge Bonds at 3½%	2,000,000.00	70,000.00
Town Deposit Fund Note at 6%	23,481.00	1,409.00
		$176,034.00
To cover six months' interest at 4½% on Bonds for High School, Municipal Building and Daniels Mill Property	$2,320,000.00	52,200.00
Estimated amount required to meet interest on Temporary Loans		11,466.00
		$239,700.00

Annual expenditures for the past ten years, not including the fiscal year just ending, are as follows:

1902-3	$144,064.27
1903-4	143,721.41
1904-5	169,121.11
1905-6	198,320.44
1906-7	213,244.61
1907-8	214,565.44
1908-9	209,725.44
1909-10	192,290.37

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1910-11	$175,851.38
1911-12	179,999.58

PERMANENT IMPROVEMENTS.

We recommend an appropriation of $80,000.00, to be applied by the City Treasurer under direction of the Board of Finance, on account of Permanent Improvements $85,000.00

SINKING FUND.

We recommend the sum of $99,900.00, which is equivalent to a one-mill tax on the Grand List, for this purpose $99,900.00

CONTINGENT FUND.

After making the above appropriations, we estimate there will remain from the receipts of the year the sum of $32,839.32, which we set aside for a Contingent Fund $32,839.32

Total Amount of Appropriations $2,970,259.88

CITY DEBT.

After deducting the Water Debt and Sinking Fund, the net debt for the years given below has been:

April 1, 1902	$2,806,363.00
April 1, 1903	2,728,076.00
April 1, 1904	2,981,686.00
April 1, 1905	3,594,874.00
April 1, 1906	4,446,348.00
April 1, 1907	4,344,714.00
April 1, 1908	4,231,634.00
April 1, 1909	4,116,215.00
April 1, 1910	4,015,650.00
April 1, 1911	4,171,816.00
April 1, 1912	4,161,255.00

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GRAND LISTS.

	Grand List	Corporation Stock	Total List for Assessment of Taxes
1902	$60,451,657.00	$23,091,968.00	$83,543,625.00
1903	61,357,470.00	26,650,584.00	88,008,054.00
1904	63,482,941.00	27,641,715.00	91,124,656.00
1905	65,615,151.00	31,352,259.00	96,967,410.00
1906	68,441,090.00	30,067,299.00	98,508,389.00
1907	71,780,412.00	31,294,173.00	103,074,585.00
1908	73,926,075.00	32,648,548.00	106,574,623.00
1909	80,401,659.00	37,819,866.00	118,221,525.00
1910	91,118,506.00	46,942,336.00	138,060,842.00
1911	95,281,659.00	48,933,242.00	144,214,901.00

TAX RATES.

Tax Rates upon the following Grand Lists have been as follows:

October 1, 1902	18 mills
October 1, 1903	18 mills
October 1, 1904	18 mills
October 1, 1905	18 mills
October 1, 1906	18 mills
October 1, 1907	18 mills
October 1, 1908	18 mills
October 1, 1909	17½ mills
October 1, 1910	16½ mills
October 1, 1911	15¾ mills

The rate recommended to be levied upon the Grand List of October 1, 1912, is 21½ mills.

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RECAPITULATION OF RECEIPTS AND APPROPRIATIONS.

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ESTIMATED RECEIPTS.

21½ mill tax on Grand List,	$99,900,000.00	$2,147,850.00
6 mill tax on Farm List,	600,000.00	3,600.00
Personal Tax		35,000.00
Corporation Stock Tax (gross)		500,000.00
National Bank Tax		2,750.00
Street Railway Tax		25,000.00
County Commissioners		70.000.00
Water Commissioners		19,000.00
STREET DEPARTMENT.		
Street Sprinkling	$25,000.00	
Street Cleaning	5,000.00	
Paving Front, Morgan, Pleasant, Spruce Sts. and Marsh Court	24,551.00	
Sundry Collections	2,000.00	
		56,551.00
Police Department		2,500.00
Charity Department		8,000.00
Health Department		3,500.00
State Appropriation for Schools		56,000.00
State Appropriation for Evening Schools		2,250.00
Town Deposit Fund Income		1,408.88
High School Tuition Fees		5,000.00
Commission Collecting School Taxes		1,800.00
Police Court		10,000.00
City Court		2,000.00
Probate Court		300.00
Public Dock		500.00
Public Buildings		2,750.00
Amusement Licenses		1,500.00
Interest on Deposits		10,000.00
Registration of Dogs (net)		3,000.00
		$2,970,259.88

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RECAPITULATION OF APPROPRIATIONS.

Departments.

Street	$495,000.00
Engineering	30,000.00
Fire	280,000.00
Police	214,000.00
Charity	138,000.00
Health	28,800.00
Park	85,000.00
Schools	674,908.88
High School	170,000.00
School Visitors	65,500.00
Legal and Claims	9,500.00
Police Court	10,600.00
City Court	7,100.00
Liquor Prosecutions	500.00
Probate Court	1,000.00
Common Council	6,500.00
Miscellaneous	1,805.00
Juvenile Commission	1,000.00
City Plan Commission	300.00
Public Dock Commission	1,750.00
High School Building Commission	4,750.00
Public Buildings	8,300.00
Water	8,500.00
Public Library	21,000.00
Advertising	6,000.00
Police Benefit Fund	7,500.00
Firemen's Relief Fund	8,000.00
Personal Tax	8,400.00
Military Assessment	20,100.00
State Tax	84,961.26
County Tax	28,320.42
Mayor	5,100.00
Collector	11,820.00
Treasurer	7,700.00
Controller	5,020.00
City Clerk	7,700.00
Assessors	12,710.00
Registrars	8,000.00
Selectmen	3,100.00
Marshal	575.00
Building Inspector	5,400.00
Sealer of Weights and Measures	3,600.00
Connecticut River Bridge — Maintenance	15,000.00
Interest	239,700.00
Permanent Improvements	85,000.00
Sinking Fund	99,900.00
Contingent Fund	32,839.32
	$2,970,259.88

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REPORT

OF THE

BUILDING INSPECTOR

FOR THE

Years Ending December 31, 1912,

AND

December 31, 1913

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REPORT OF THE BUILDING INSPECTOR.

SIX MONTHS ENDING DECEMBER 31, 1912, with summary for year.

HARTFORD, CONN., January 1, 1913.

To the Honorable Court of Common Council of the City of Hartford:

GENTLEMEN: — The following is a report of the building operations in the City of Hartford during the six months ending December 31, 1912, together with a summary for the year ending on the same date. During the past six months, there were granted 590 permits, and the estimated amount expended for building operations was $2,672,440.00. Compared with the corresponding six months of the preceding year, this shows a loss of 28 permits, with a gain of $178,446.00 in the estimated value of work authorized.

CLASSES OF BUILDINGS.

The number and cost of the various classes of buildings which makes up the above summary is here given:

	Number.	Value.
Freight House	1	$25,000.00
Factories and Storehouses	11	436,200.00
Business Buildings	5	246,000.00
Theatre	1	20,000.00
School	1	35,000.00
Pumping Station	1	33,000.00
Dwellings (one-family)	35	199,250.00
Dwellings (two-family)	80	500,300.00
Apartment and Tenement Houses	84	832,700.00
Miscellaneous Buildings	158	75,955.00
Additions	124	140,585.00
Alterations	89	128,450.00
	590	$2,672,440.00

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INSPECTIONS.

The following table shows in detail the work of the office:

Inspections of new buildings	1,928
Inspections of old buildings, yards and areas	1,307
Inspections of theatres	128
Inspections of buildings to determine safe loads	1
Inspections preliminary to granting permits	93
Orders given for changes and repairs to old buildings	157
Permits granted for removal of buildings	2

RECAPITULATION.

	Permits	Est'd Cost
Building operations for the last six months of 1912	590	$2,672,440.00
Building operations for the last six months of 1911	618	2,493,994.00
Loss in number of permits for 1912	28	
Gain in estimated cost for 1912		$178,446.00
Tenements added from new buildings from July 1st to Dec. 31st, 1912	607	
Tenements added from new buildings from July 1st to Dec. 31st, 1911	702	
Loss for 1912	95	

EXPENDITURE BY WARDS.

Tenth Ward	$597,355.00
Seventh Ward	449,465.00
Fourth Ward	445,335.00
Eighth Ward	349,280.00
Fifth Ward	273,630.00
Sixth Ward	183,730.00
First Ward	129,810.00
Third Ward	114,535.00
Second Ward	97,250.00
Ninth Ward	31,050.00
	$2,672,440.00

TENEMENT HOUSES BY WARDS.

Wards	1	2	3	4	5	6	7	8	9	10	Grand Total
Ward total	2	2	8	11			32	13	2	14	84

DWELLINGS BY WARDS.

Wards	1	2	3	4	5	6	7	8	9	10	Grand Total
Ward total			3	49			20	20		23	115

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HOMES PROVIDED BY NEW DWELLINGS AND TENEMENT HOUSES.

Wards	1	2	3	4	5	6	7	8	9	10	Grand Total
Ward total	14	18	41	135		195	103	6	95		607

TABLE GIVING NUMBER OF BRICK, STONE, CONCRETE OR WOOD BUILDINGS AND THE ESTIMATED VALUE OF EACH.

	Number Wood	Number Brick, Stone or Concrete	Cost Wood	Cost Brick, Stone or Concrete
Freight House		1		$25,000.00
Factories and Storehouses		11		436,200.00
Business Buildings		5		246,000.00
Theatre		1		20,000.00
School		1		35,000.00
Pumping Station		1		33,000.00
Dwellings (one-family)	31	4	140,250.00	59,000.00
Dwellings (two-family)	76	4	468,300.00	32,000.00
Apartment and Tenement Houses	30	54	177,000.00	655,700.00
Miscellaneous Buildings	138	20	47,400.00	28,555.00
Additions	98	26	47,010.00	93,575.00
Alterations	60	29	67,870.00	60,580.00
Totals	433	157	$947,830.00	$1,724,610.00

Number of permits for new buildings	377	Estimated Cost	$2,403,405.00
Number of permits for additions	124	" "	140,585.00
Number of permits for alterations	89	" "	128,450.00
Totals	590		$2,672,440.00

SUMMARY FOR YEAR.

During the year just closed there were granted 1277 permits, and the estimated value of all work authorized is $7,379,525.00. This shows a loss of 28 permits and a gain in value of $1,483,-281.00 over the preceding year. In the appended tables are set forth the number and estimated value of all the buildings contributing to the above total, together with the estimated expenditure by wards in order of the amount invested. There is set forth also the number of homes built in the several wards during the year.

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TENEMENT HOUSES BY WARDS FOR YEAR 1912.

Wards	1	2	3	4	5	6	7	8	9	10	Grand Total
Ward total	4	7	16	28	1	1	57	41	11	39	205

DWELLINGS BY WARDS FOR YEAR 1912.

Wards	1	2	3	4	5	6	7	8	9	10	Grand Total
Ward total			6	82			55	41	1	44	229

HOMES PROVIDED BY NEW DWELLINGS AND TENEMENT HOUSES FOR YEAR 1912.

Wards	1	2	3	4	5	6	7	8	9	10	Grand Total
Ward total	40	69	102	265	3	8	388	260	62	255	1,452

SUMMARY FOR YEAR.

TABLE GIVING NUMBER OF BRICK, STONE, CONCRETE OR WOOD BUILDINGS AND THE ESTIMATED VALUE OF EACH.

	Number Wood	Number Brick, Stone or Concrete	Cost Wood	Cost Brick, Stone or Concrete
Schoolhouse		1		$35,000.00
Freight House		1		25,000 00
Factories and Storehouses		18		631,200.00
Business Buildings and Club House		11		1,406,600.00
Theatre and Hotel Buildings		2		370,000.00
Municipal Building		1		250,000.00
Pumping Station		1		33,000.00
Art Building		1		350,000.00
Dwellings (one-family)	45	12	308,650.00	144,000.00
Dwellings (two-family)	146	6	878,950.00	45,000.00
Apartment and Tenement Houses	52	153	303,700.00	1,820,600.00
Miscellaneous Buildings	273	35	95,895.00	56,505.00
Additions	244	69	115,190.00	224,050.00
Alterations	144	42	179,230.00	106,955.00
Totals	924	353	$1,881,615.00	$5,497,910.00

Number of permits for new buildings	778	Estimated Cost	$6,754,100.00
Number of permits for additions	313	" "	339,240.00
Number of permits for alterations	186	" "	286,185.00
Totals	1,277		$7,379,525.00

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EXPENDITURE BY WARDS FOR YEAR.

First Ward	$1,855,735.00
Tenth Ward	1,083,715.00
Seventh Ward	944,465.00
Fifth Ward	941,055.00
Fourth Ward	812,100.00
Eighth Ward	719,950.00
Ninth Ward	320,505.00
Third Ward	251,160.00
Sixth Ward	231,625.00
Second Ward	219,215.00
	$7,379,525.00

RECAPITULATION.

	Permits	Estimated cost
Building operations for year 1912	1,277	$7,379,525.00
Building operations for year 1911	1,305	5,896,244.00
Loss in number of permits for 1912	28	
Gain in estimated cost for 1912		$1,483,281.00
Tenements added from new buildings from Jan. 1st, to Dec. 31st, 1912		1,452
Tenements added from new buildings from Jan. 1st, to Dec. 31st, 1911		1,423
Gain for 1912		29

COMPARATIVE TABLE.

A comparative table showing the building operations in Hartford for the past ten years, is as follows:

1903	$1,694,605.00
1904	2,144,605.00
1905	3,076,091.50
1906	3,732,915.00
1907	4,054,335.00
1908	3,107,348.00
1909	3,440,925.00
1910	4,541,979.00
1911	5,896,244.00
1912	7,379,525.00

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FIRES.

A monthly record of the fires during the past year is here given with estimated loss of property.

	Box Alarms	Still Alarms	Est'd Damage
January	17	29	$13,187.00
February	11	24	3,439.00
March	13	24	4,723.00
April	13	23	20,308.00
May	13	31	10,910.00
June	16	20	25,272.00
July	14	53	9,404.00
August	11	31	11,481.00
September	7	23	1,038.00
October	10	32	5,752.00
November	10	24	7,976.00
December	24	33	25,145.00
	159	347	$138,635.00

In addition to the above statistical tables, there is appended below a complete summary of the building operations for the six months period and for the twelve months period closed December 31, 1913, showing the work of all kinds authorized in each ward in the City.

Respectfully submitted,

BURTON S. CLARK,
Building Inspector.

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SUMMARY BY WARDS OF BUILDING OPERATIONS FOR THE YEAR ENDING DECEMBER 31, 1913.

Building Operations.		I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	Est'd Cost.
Dwelling Houses	No.		1	5	43			21	38		33	141
	Estimated Cost		$1,700.00	$24,300.00	$251,300.00			$107,100.00	$172,900.00		$351,400.00	$908,700.00
Apartment and Tenement Houses	No.	3	8	9	20	1	2	38	21	3	16	121
	Estimated Cost	$50,000.00	139,500.00	98,000.00	162,000.00	$36,000.00	$17,000.00	307,400.00	163,600.00	$22,500.00	165,200.00	1,161,200.00
Churches and Parish House	No.				1			1		1	1	4
	Estimated Cost				70,000.00			18,000.00		25,000.00	25,000.00	138,000.00
Library and Public Buildings	No.	1				1			1			3
	Estimated Cost	22,000.00				240,000.00			200,000.00			462,000.00
Schools, Hospital and Bathhouse	No.			1	3			1	2	1		8
	Estimated Cost			115,000.00	124,000.00			115,000.00	82,000.00	338,000.00		774,000.00
Moving Picture Theatre	No.			1		3						4
	Estimated Cost			7,500.00		255,000.00						262,500.00
Business Buildings and Club House	No.	1		2		3	1		1	1	1	10
	Estimated Cost	500,000.00		11,750.00		390,000.00	13,000.00		24,000.00	10,000.00	175,000.00	1,113,750.00
Factories and Storehouses	No.	2	1	2		2	1	1	1		3	13
	Estimated Cost	13,500.00	4,000.00	5,700.00		41,000.00	2,000.00	16,000.00	38,000.00		29,800.00	150,000.00
Tank	No.										1	1
	Estimated Cost										1,500.00	1,500.00
Miscellaneous Buildings	No.	10	23	35	57	5	9	56	55	11	72	333
	Estimated Cost	5,925.00	22,325.00	7,170.00	30,615.00	3,830.00	2,905.00	20,080.00	8,526.00	3,645.00	46,615.00	150,686.00
Alterations and Additions	No.	80	57	69	44	40	33	59	52	23	74	531
	Estimated Cost	148,445.00	62,460.00	54,130.00	23,035.00	100,900.00	43,300.00	45,125.00	65,005.00	22,550.00	97,465.00	662,415.00
Total by wards		97	90	124	168	55	46	177	171	40	201	1,169
Estimated cost by wards		$739,870.00	$228,985.00	$323,550.00	$660,950.00	$1,056,730.00	$78,205.00	$628,705.00	$754,031.00	$421,745.00	$891,980.00	$5,784,751.00

Number of permits for new buildings	638	Estimated Cost	$5,122,336.00
Number of permits for alterations and additions	531	Estimated Cost	662,415.00
Totals	1,169		$5,784,751.00

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BUILDING OPERATIONS FROM JULY 1 TO DECEMBER 31, 1913.

BUILDING OPERATIONS.		WARDS.										
		I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	Est'd Cost.
Dwelling Houses	No.			2	22			9	19		11	63
	Estimated Cost			$10,300.00	$151,100.00			$48,100.00	$87,300.00		$74,000.00	$370,800.00
Apartment and Tenement Houses	No.	2	2	1	11	1		12	10		4	43
	Estimated Cost	$40,000.00	$26,000.00	4,000.00	86,200.00	$36,000.00		86,800.00	76,100.00		69,100.00	424,200.00
Church	No.				1							1
	Estimated Cost				70,000.00							70,000.00
Library and Public Buildings	No.	1				1			1			3
	Estimated Cost	22,000.00				240,000.00			200,000.00			462,000.00
Schools, Hospital and Bath House	No.			1	3			1	1	1		7
	Estimated Cost			115,000.00	124,000.00			115,000.00	17,000.00	$338,000.00		709,000.00
Moving Picture Theatres	No.			1		1						2
	Estimated Cost			7,500.00		75,000.00						82,500.00
Business Blocks and Club House	No.	1		1		3	1				1	7
	Estimated Cost	500,000.00		1,750.00		380,000.00	$13,000.00				175,000.00	1,069,750.00
Factories and Storehouses	No.	2		1		1	1	1			1	7
	Estimated Cost	13,500.00		3,200.00		35,000.00	2,000.00	16,000.00			15,000.00	84,700.00
Tank	No.										1	1
	Estimated Cost										1,500.00	1,500.00
Miscellaneous Buildings	No.	8	11	22	30	3	7	21	25	4	36	167
	Estimated Cost	5,775.00	5,750.00	4,970.00	18,540.00	3,730.00	1,805.00	3,525.00	2,821.00	1,980.00	30,945.00	79,841.00
Alterations and Additions	No.	28	27	39	29	14	13	28	18	13	33	242
	Estimated Cost	53,310.00	35,025.00	21,905.00	9,185.00	46,725.00	23,275.00	19,680.00	20,295.00	16,575.00	38,540.00	284,515.00
Total by wards		42	40	68	96	24	22	72	74	18	87	543
Estimated cost by wards		$634,585.00	$66,775.00	$168,625.00	$459,025.00	$816,455.00	$40,080.00	$289,105.00	$403,516.00	$356,555.00	$404,085.00	$3,638,806.00

Number of permits for new buildings	301	Estimated Cost	$3,354,291.00
Number of permits for alterations and additions	242	Estimated Cost	284,515.00
Total	543		$3,638,806.00

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REPORT

OF THE

Officers of Firemen's Relief Fund

To March 31, 1913

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SIXTEENTH ANNUAL REPORT OF THE FIREMEN'S RELIEF FUND.

For the Fiscal Year Ended March 31, 1913.

Balance on hand April 1, 1912,	$26,960.26	
Receipts.		
Appropriation by Court of Common Council,	8,000.00	
Assessments on members,	1,836.76	
Sale of three Ford cars,	597.00	
Sale of three horses,	330.00	
Sale of fertilizer,	213.00	
Sale of old material,	59.40	
Fine for loss of badge,	1.25	
Donation from East Side Fire District, Town of West Hartford,	25.00	
Donation from Dr. J. B. McCook,	5.00	
Donation from Town of Wethersfield,	25.00	
Donation from Town of West Hartford,	50.00.	
Donation from P. Donaghue Company,	25.00	
Donation from Hartford Market Co.,	50.00	
Donation from State Tuberculosis Commission,	100.00	
Interest on deposit in Banks.	1,144.45	$39,422.12
Disbursements.		
Henry J. Eaton, Benefit,	$1,250.00	
Louis Krug, Benefit,	1,041.66	
Warren A. Bingham, Benefit,	600.00	
Edward C. Woodworth, Benefit,	585.52	
Edward Sommerman, Benefit,	600.00	
Willis P. Barker, Benefit,	577.16	
Nathan F. Levee, Benefit,	500.00	
Joseph W. McClellan, Benefit,	500.00	
Edwin H. Williams, Benefit,	350.00	
Hamlet P. Barber, Benefit,	350.00	
Robert Marchant, Benefit,	300.00	
Fred C Krug, Benefit,	300.00	
James S. Secor, Benefit,	300.00	
George W. Staib, Benefit,	300.00	

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Francis Fitzpatrick, Benefit,	$200.00	
August A. Sommerman, Benefit,	200.00	
Niles Estlow, Benefit,	200.00	
Seymour Clark, Benefit,	200.00	
Dennis F. Cooney, Benefit,	200.00	
Charles C. Champlin, Benefit,	200.00	
Gordon B. Hale, Benefit,	200.00	
Jason Wilson, Benefit,	200.00	
Charles A. Gunn, Benefit,	200.00	
Henry Harris, Benefit,	25.00	
Burr Index Co., (Printing and Stationery),	18.00	
Rebates on over-assessments of substitutes,	25.24	$9,422.58
Balance on hand April 1, 1913,		$29,999.54
Deposited in Society for Savings,	$3,294.46	
Deposited in Mechanics Savings Bank,	4,869.21	
Deposited in State Savings Bank,	4,577.11	
Deposited in Farmington Savings Bank,	4,596.33	
Deposited in Savings Bank of New Britain,	4,421.96	
Deposited in Savings Bank of Rockville,	3,631.17	
Deposited in Dime Savings Bank,	4,609.30	
		$29,999.54

Benefits paid since Fund was organized, $59,626.78.

HORACE B. CLARK,
President.

GEO. ESTLOW,
Secretary,

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REPORT

OF THE

PORT WARDEN

FOR THE

Year Ending March 31, 1913

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ANNUAL REPORT OF PORT WARDEN.

Port of Hartford, Connecticut.

Freight Tonnage Year 1912.

Hartford, Connecticut, April 14, 1913.

To the Honorable Court of Common Council of the City of Hartford:

GENTLEMEN: — I have the honor to submit herewith the Annual Report of the Tonnage of the Port for the year ending December 31, 1912.

Cement (barge),	2,500	Tons
Wall Plaster (barge),	3,500	"
Tile (schooner),	200	"
Sand Moulding (schooner),	240	"
Brick, Terra Cotta (schooner),	1,200	"
Coal (barge),	253,626	"
Brown Stone, Building (barge),	17,642	"
Nail Rod (barge),	1,819	"
Sand, Building (scow),	65,000	"
Freight, Steamboat to Hartford,	65,180	"
Freight, Steamboat to Conn. River Ports,	38,705	"
Lumber (barge),	1,765,782	Feet
Lumber (schooner),	1,997,800	"
Piles (schooner),	5,000	"
Oil, Gas (barge),	2,175,880	Gals.

Very respectfully submitted,

C. M. GESNER,
Port Warden.

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REPORT

OF THE

Sealer of Weights and Measures

To March 31, 1913

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REPORT OF SEALER OF WEIGHTS AND MEASURES.

HARTFORD, CONN., April 7, 1913.

To His Honor the Mayor, Louis R. Cheney, and to the Honorable Members of Common Council:

GENTLEMEN AND SIRS:— I herewith take this opportunity of thanking your most honorable body for the many courtesies granted this office and in the honorable way this office has been treated by his honor and the Court of Common Council.

I herewith submit the Annual Report of this office for the fiscal year ending March 31, 1913.

I have inspected, sealed, and condemned Scales, Weights, Measures, etc., as follows:

	Sealed	Condemned
Spring Balance Scales	809	174
Counter Scales	1,032	281
Platform Scales	213	67
Weights	4,908	116
Dry Measures	4,090	15
Tin Dry Measures	345	
Wet Measures	4,201	44
Total	15,598	697

I am most respectfully yours,

THOMAS F. MURRAY.

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REPORT

OF THE

CORPORATION COUNSEL

FOR THE

City Year 1912-1913

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REPORT OF THE CORPORATION COUNSEL.

April 1, 1913.

To the Honorable Court of Common Council of the City of Hartford:

GENTLEMEN: — As required by law, I submit the following report of the work of the legal department for the year ending March 31, 1913.

The following matters involving proceedings in court, to which the City has been made a party, have received attention, as follows:

THE FOLLOWING CASES PENDING AT THE COMMENCEMENT OF THE YEAR HAVE BEEN DISPOSED OF:

1. George Keller against the Connecticut River Bridge and Highway District and the City of Hartford; Superior Court, Hartford County.
(Stricken from the docket.)

2. The Farmers & Mechanics National Bank against the City of Hartford; Superior Court, Hartford County.
(Stricken from the docket.)

3. L. B. Haas *et al.* against the City of Hartford; Superior Court, Hartford County.
(Stricken from the docket.)

4. Susan V. Hubbard against the City of Hartford; Court of Common Pleas, Hartford County.
(Stricken from the docket.)

5. Theodore M. Maltbie against the City of Hartford; Superior Court, Hartford County.
(Settled as per resolution of Court of Common Council.)

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6. J. Albert Brodrib against the City of Hartford; Superior Court, Hartford County.
(Withdrawn.)

7. Minnie Gelford against the City of Hartford; Superior Court, Hartford County.
(Judgment for defendant sustained in Supreme Court.)

8. Eliza Boudreau against the City of Hartford; Superior Court, Hartford County.
(Verdict for plaintiff.)

9. The City of Hartford against the Connecticut Company; Superior Court, Hartford County.
(Demurrer overruled and judgment entered for relator.)

10. The United States of America against the City of Hartford; District Court of the United States, District of Connecticut.
(Withdrawn by plaintiff.)

11. James W. Pyne against the City of Hartford; Superior Court, Hartford County.
(Tried to the jury; judgment on verdict for defendant.)

12. Robert A. McKone against the Connecticut Company and the City of Hartford; The City Court of the City of Hartford.
(Withdrawn as against the city.)

THE FOLLOWING CASES INSTITUTED SINCE THE COMMENCEMENT OF THE YEAR HAVE BEEN DISPOSED OF:

1. The City of Hartford against Philip F. Hughes *et al.*; The City Court of the City of Hartford. Foreclosure for unpaid taxes and assessments.
(Settled and taxes and interest paid to city collector; costs remitted.)

2. The City of Hartford against William Bellow; The City Court of the City of Hartford. Foreclosure for unpaid taxes and assessments.
(Settled and taxes and interest paid to city collector; costs paid to city treasurer.)

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3. The City of Hartford against Sidney Tulin *et al.*; The City Court of the City of Hartford. Foreclosure for unpaid taxes and assessments.

(Settled; taxes and interest paid to city collector; costs collected and paid to city treasurer.)

4. The City of Hartford against Louise A. Bailey *et al.*; The City Court of the City of Hartford. Foreclosure for unpaid assessments.

(Settled; amounts due paid to the city collector; costs collected and paid to the city treasurer.)

5. The City of Hartford against Mary L. Chapman; The City Court of the City of Hartford. Foreclosure for unpaid taxes.

(Judgment taken and title now rests in the city.)

6. The City of Hartford against K. B. Pomeroy; The City Court of the City of Hartford. Foreclosure for unpaid taxes.

(Judgment, of foreclosure by sale; property sold and taxes and interest paid to city collector; costs to the city treasurer.)

7. The City of Hartford against Simon Karp; The City Court of the City of Hartford. Suit on bond forfeited in the police court.

(Bond and costs collected and paid to the city treasurer.)

8. The City of Hartford against Charles A. Perry *et al.*; The City Court of the City of Hartford. Suit for taxes on personal property.

(Settled and tax and interest paid to the city collector; costs collected and paid to the city treasurer.)

9. The City of Hartford against Joseph Roth; The City Court of the City of Hartford. Suit for tax on personal property.

(Settled and tax and interest paid to the city collector; costs collected and paid to the city treasurer.)

10. The City of Hartford against Bertha Webber; The City Court of the City of Hartford. Foreclosure for unpaid taxes.

(Judgment taken, and title to the property now stands in the City.)

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11. Campbell, Trustee, against the Charter Oak Hygeia Ice Company. Superior Court, Hartford County. The City was made a party because of unpaid taxes.

(Taxes have been since collected, and the city is no longer a party.)

THE FOLLOWING CASES PENDING AT THE BEGINNING OF THE YEAR ARE STILL PENDING:

1. The Case, Lockwood & Brainard Co. against the City of Hartford; Superior Court, Hartford County. Injunction to restrain discontinuance of sewer.

2. The Capitol City Lumber Company against the City of Hartford; Court of Common Pleas, Hartford County. *Scire facias.* Further action restrained by order of the City Court of the City of Hartford.

3. Isaac Maislen against the City of Hartford; Superior Court, Hartford County. Alleged damages for defective sewer. Ready for trial.

4. The City of Hartford against H. C. Parsons; The City Court of the City of Hartford. Action for services of fireman; decision for defendant; appeal to Supreme Court, but no finding yet received.

5. Abraham Gordon *et al.* against Thomas F. Flanagan; The City Court of the City of Hartford. Action against food inspector for destruction of condemned fruit.

6. The City of Hartford against Raffaele DeFeo; Superior Court, Hartford County. Action on defaulted bond; ready for trial.

7. F. Henry Fuller against Gustav Ekstrom; The City Court of the City of Hartford. Action for alleged false arrest.

8. The Case, Lockwood & Brainard Co. against the city of Hartford; Superior Court, Hartford County. Suit to restrain removal of steps on Pearl Street.

9. The City of Hartford against Nicholas Pallotti, in the City Court of the City of Hartford. Foreclosure for unpaid

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taxes. Demurrer of the City to answer of defendant was sustained; motion to strike out new answer was sustained; the case is now ready for trial or settlement.

THE FOLLOWING CASES INSTITUTED SINCE THE COMMENCEMENT OF THE YEAR ARE STILL PENDING:

1. The City of Hartford against Catherine Carroll *et al.*; The City Court of the City of Hartford. Foreclosure unpaid taxes. A stipulation for judgment has been agreed upon if the taxes, interest and costs are not paid by June first.

2. The City of Hartford against Bernard Teller; The City Court of the City of Hartford. Foreclosure for unpaid taxes. They are being paid in installments under an agreement of settlement.

3. The City of Hartford against the United States Paper Bottle Co.; The City Court of the City of Hartford. Foreclosure for unpaid taxes.

4. The City of Hartford against W. C. Pike; The City Court of the City of Hartford. Suit for unpaid tax on personal property.

5. Margaret Coffey against the City of Hartford; Superior Court, Hartford County. Snow and ice, sidewalk case.

6. Mary P. Kelly against the City of Hartford; Superior Court, Hartford County. Damages for injuries caused by alleged defective sidewalk. Agreement has been negotiated to settle this case for $100, and offer is now before your honorable body for action.

7. Frank Krause against the City of Hartford; Court of Common Pleas, Hartford County; claiming damages for injuries due to defective highway.

8. The Hartford Paving & Construction Co. against the City of Hartford; The Superior Court, Hartford County, claiming damages for fraud and extras in execution of contract for east side intercepting sewer. Assigned for trial April 22, 1913.

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9. Elmer S. Adkins *et ux.* against the City of Hartford; Superior Court, Hartford County. Icy sidewalk, Capitol Avenue.

THE FOLLOWING APPEALS FROM THE BOARD OF RELIEF HAVE BEEN DISPOSED OF:

1. John A. Stoughton's Appeal from Board of Relief; Superior Court, Hartford County. Judgment of Superior Court denying relief sustained in the Supreme Court.

2. James C. Pratt's Appeal from Board of Relief; Superior Court, Hartford County. Appeal withdrawn.

3. John A Stoughton's Appeal from Board of Relief; Superior Court, Hartford County. Appeal withdrawn.

THE FOLLOWING SPECIAL PROCEEDINGS HAVE BEEN DISPOSED OF:

1. The petition of James H. Grozier *et al.* for permission to allow the Connecticut Company to deposit building material in the highways, pending delivery to private persons. This petition was brought before Hon. William S. Case, a judge of the Superior Court, on demurrer of the city, and demurrer sustained.

2. Timothy W. McNamara *et ux*; appeal from Board of Street Commissioners on layout of Canterbury Street. Withdrawn.

3. Anna C. Rowley *et al.*; appeal from Board of Street Commissioners on layout of Salisbury Street. Withdrawn.

4. The City of Hartford's appeal from Board of Railroad Commissioners; granting right to lay cross-over in Washington Street. Withdrawn.

THE FOLLOWING SPECIAL PROCEEDINGS ARE STILL PENDING:

1. Isaac Bragaw *et als.*; appeals from Board of Street Commssioners; widening of High Street.

2. Appeal of J. August Steig *et al.* from widening of Park Street. Referred to William M. Maltbie, Committee.

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3. Appeal of Charles B. Nomejko from building line on Wethersfield Avenue. Richard J. Goodman, Committee.

4. Appeal of Henry K. Lee from sewer assessment on Broad View Heights. Hon. Walter H. Clark, Committee. Assigned for hearing April 16.

5. Appeal of Second North School District from High Street widening; Richard J. Goodman, Committee.

6. Appeal of Sarah Wyllie *et al.*; street, building and veranda lines on Park Street.

There is also pending for action before the Board of Public Utilities Commissioners, a petition for an under passing crossing of the proposed Capitol Avenue Extension, under the tracks of the New York, New Haven & Hartford Railroad Company. One hearing has already been held on this petition, and a further hearing is assigned for April 23, in connection with a new petition for the abolishment of the grade crossings at Sigourney and Flower Streets.

I have not referred to the numerous cases of foreign attachment brought against the city, for the reason that most of them have been disposed of, and in none has the city been subjected to any liability.

ABOLITION OF GRADE CROSSINGS.

It is too early to prophesy the result of the proceedings now taken to the Board of Public Utilities Commissioners for the abolition of grade crossings in the western part of the city. The matter was brought up by the extension of Capitol Avenue resulting in the so-called Willow Street under crossing. That matter was held in abeyance owing to the proposed action of the Court of Common Council, in reference to the abolition of Flower and Sigourney grade crossings. Petitions for abolition of these last named crossings have been brought and are assigned for hearing April 23, 1913.

What expense will be thrown upon the city as a result of a comprehensive plan if approved by the Board of Public Utilities Commissioners, is of course entirely problematical, and the legal department has endeavored, in drawing the papers incident to

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the proceedings, not to commit the city to carrying out the project if the expense should be prohibitive.

The legal department requests your honorable body to very carefully follow the hearings and give your attendance there so far as the private business of the members permits. The matter is of great importance, and the members of the Court of Common Council should inform themselves individually as fully as possible on the subject.

TAX COLLECTIONS.

This department has received during the year from the city collector more than 150 claims for unpaid taxes and assessments on real and personal property. Edward L. Steele, acting as assistant to the undersigned, has had charge of these matters, and has collected and turned over to the city collector the sum of $5,625.45. In addition to this sum actually handled by the department, the further sum of about $8,700 was paid directly to the collector on claims turned over to the law department and collected through its efforts.

Most of these claims have been collected without court proceedings, but there have been brought thirteen suits in the City Court during the year, of which nine have been disposed of, and the others have been continued pending settlement. There have also been collected, one by suit and the other without suit, two forfeited bonds turned over to this department by the clerk of the Police Court. $774.53 have been collected in costs and penalities, and transferred to the city treasurer.

REAL ESTATE TRANSACTIONS.

The boundary lines of properties on Market Street and Pearl Street, used by the fire department, have been defined and adjusted with adjacent property owners, and proper deeds executed and placed on record.

The following is a financial statement for the legal department for the year:

General Appropriation for Legal Department . . .	$9,500.00
Special Appropriation	3,000.00
	$12,500.00

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EXPENDITURES.

Salary of Corporation Counsel	$5,000.00	
Paid for assistance	1,200.00	
Officer's fees	39.16	
Expert and other witnesses	343.00	
Town Clerk for recording	8.20	
Court fees	13.50	
Investigation of snow and ice cases	127.55	
Typewriting and copy of evidence	393.15	
Printing	79.65	
Advertising, examining title, and office expenses	209.86	$7,414.07
Claims paid as follows:		
T. M. Maltbie	1,250.00	
Eliza Budreau	2,622.94	
L. M. Bridges	100.00	
Thomas Fannon	100.00	
Moses Katzenstein	6.97	
Mrs. John Officer	10.00	
Mary A. Low	458.58	4,548.49
Balance		$537.44

COMMITTEES ON ORDINANCES AND ON CLAIMS.

My assistant, Mr. Steele, with some assistance from me, has had in charge the work of the legal department in respect to the above-named committees. I agree with the report of my predecessor in office, that there is a growing disposition to constantly amend the ordinances of the city, and to provide too minutely for every detail of city life in this way, yet every one who is familiar with the work of the Ordinance Committee for the past year must agree that it has been faithful in its service, and that many corrections in, and proper additions to, our city by-laws, have resulted from this work.

The work of the Claims Committee has been very conscientious. The claims have been carefully investigated, and the awards, as it seems to me, have been just.

COLLECTION OF PERSONAL TAX.

The legal department has been called upon to advise and aid the tax collectors in the institution and operation of their work. Its results have been good. A very much larger amount has been collected than was anticipated. That the collectors were

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also made canvassers procured a much better tax list. To secure a proper tax list is a difficult undertaking, but makes the collection of the tax comparatively simple. One reason that we have succeeded this year in collecting such a large sum through the personal tax collectors, has been that the work of the collectors as canvassers and examiners of the list was very useful.

LEGISLATION.

It is too early to list the matters under consideration by the General Assembly, which affect the City of Hartford. All matters which were approved by the Court of Common Council have been submitted to the General Assembly. Most of them have been reported by the Committee on Cities and Boroughs favorably, and as soon as they have been enacted into law it is proposed by the legal department to print them all in a separate pamphlet for public distribution.

CONCLUSION.

Hartford has a complex system of city government, and the matters over which the city exercises jurisdiction in whole or in part are yearly increasing in scope. The time is not far ahead when the city charter should be revised, yet I am reluctant to suggest the undertaking of the work in the near future. In spite of the incongruities of some of the provisions of the charter, our system of city government works on the whole well. One of the most important matters which the Court of Common Council must shortly consider, is the revision of the building code. The enactment of the tenement house laws makes it especially important that that code and the relations of the board of health and the building department thereto, shall be carefully studied.

I deeply appreciate the courtesies received from the members of your honorable body, taken individually and collectively, and the kindness and consideration of the various boards and commissions of the city.

Very truly yours,

ARTHUR L. SHIPMAN,
Corporation Counsel.

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CITY COURT

AND

LIST OF PAST RECORDERS

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RECORDERS OF CITY COURT.

1837 TO 1912 INCLUSIVE.

SETH TERRY,	1837 to 1848 inclusive
ELIPHALET A. BULKELEY,	1849 to 1855 inclusive
GOODWIN COLLIER,	1856 to 1857 inclusive
ELIPHALET A. BULKELEY,	1858
ELISHA JOHNSON,	1859
ELIPHALET A. BULKELEY,	1860-62
WILLIAM W. EATON,	1862-64
GEORGE G. SILL,	1864-66
WILLIAM W. EATON,	1866-72
GEORGE G. SILL,	1872-74
GEORGE G. SUMNER,	1874-78
EDWARD B. BENNETT,	1878-91
DANIEL A. MARKHAM,	1891-93
THOMAS MCMANUS,	1893-97
LEONARD MORSE,	1897-1905
HERBERT S. BULLARD, present time,	1905

By the charter of 1784 the present City Court was created, and the Mayor and the two senior Aldermen were constituted its judges, and so remained until the year 1836, when the office of Recorder was created. By act of the Legislature of 1905 the jurisdiction of this Court was extended so as to include all civil cases which had formerly been brought before justices of the peace.

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CITY COURT.

Recorder.

	Residence
HERBERT S. BULLARD,	21 Marshall St.

Salary, $2,500 per year.

Clerk.

HERBERT A. ROSS,	6 Raymond St.

Appointed by the Recorder.
Salary, $1,500 per year.

Marshal.

HART TALCOTT,	149 High St.

Salary, $600 per year.

Messenger.

CHARLES E. OLMSTEAD,	33 Asylum St.

Salary, $600 per year.

Justices of the Peace.

Bacharach, Milton	Fogarty, Wm. H.	Murphy, Dennis J.
Becker, Isaac F.	Forward, John F.	Oakley, Ernest F., Jr.
Bennett, M. Toscan	Gross, Lewis D.	O'Brien, James P.
Bill, Albert C.	Halliday, Wilbur T	* O'Flaherty, Hugh
Brott, George O.	Henney, William F.	Pallotti, Francis A.
Broughel, Andrew J.	Hamersley, Wm. J.	Quinn, James J.
Bullard, Herbert S.	Hyde, Wm. Waldo	Robinson, Lucius F.
Calnen, Henry J.	Kennedy, Thomas K.	* Safford, Charles A.
Clarke, Sidney E.	Lawler, Joseph H.	Spellacy, Thomas J.
Coogan, John W.	Lonergan, Augustine	Steele, Edward L.
Day, Edward M.	Markham, Daniel A.	Stoner, George J.
D'Esopo, Salvator	Macdonald, Wm.	Tuttle, Joseph P.
Dwyer, John J.	Mather, Frank M.	Vail, Thomas G.
Eberle, Frederick G.	McConville, William J.	Wilson, David A.
Egan, Wm. E.	McKone, John J.	Young, Edward S.
Ellsworth, Ernest B.	Moran, Henry A.	

* Deceased.

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Grand Jurors.

	Residence
H. J. CALNEN,	33 Babcock St.
WILLIAM J. HAMERSLEY,	180 Farmington Ave.
GEORGE J. BYRNE,	38 Whitmore St.
MORRIS OLDER,	47 Mahl Ave.
JOHN W. JOY,	739 Asylum St.
J. W. KNOX,	281 Wethersfield Ave.

Constables.

THOMAS J. CONROY,	24 Market St.
CHARLES TAUSSIG,	106 Homestead Ave.
EDWARD J. LACY,	343 Main St.
JAMES R. GRAHAM,	66 Buckingham St.
WILLIAM A. FOLEY,	96 State St.
ANDREW F. SHEEHAN,	216 New Britain Ave.
SAMUEL J. CARROLL,	24 Allyn St.

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ANNUAL REPORT

OF THE

POLICE DEPARTMENT

To March 31, 1913

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REPORT OF CHIEF OF POLICE.

OFFICE OF CHIEF OF POLICE.

HARTFORD, CONN., April 1, 1913.

To The Honorable Board of Police Commissioners and Court of Common Council:

GENTLEMEN:—I hereby submit to your Honorable Body the Annual Report of the Police Department for the year ending and including March 31st, 1913.

The regular force of the Police Department as now constituted consists of Chief, Captain, Lieutenant, five Detective Sergeants, ten Sergeants and one hundred and twenty-six patrolmen. In addition there are three supernumeraries detailed to regular duty in place of Officers Dorsey, O'Mara and Gavin, who have charge of the Patrols and Ambulance.

At the present time there are seventy-four supernumeraries on the list.

CHANGES.

The year just closed has been notable in the many changes that have taken place in the Department.

Owing to continued ill health Chief William F. Gunn, who had been Chief of the Department since October 3, 1904, was, at his request, placed on the retired list and the present incumbent was appointed to the position.

Lieut. John F. Butler was elected Captain and Chief Detective Sergeant Hart, Lieutenant.

Detective Sergeant William Weltner was made Chief Detective in charge of the Detective Bureau. To fill the vacancy Sergeant A. J. Williams was appointed to the position of Detective Sergeant in place of Weltner promoted.

Patrolman A. L. Thomas was elected Sergeant.

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On March 12, 1912, an Ordinance was passed increasing the regular force from one hundred and sixteen to one hundred and twenty-six men, this to take effect April 1, 1912. Of the ten men appointed to comply with the Ordinance four had not served the required six months of regular duty and were placed on probation to serve the time as specified by Ordinance.

Officers Wm. C. Steele and Chas. A. Schiller were placed on the retired list and Officer Chas. F. Nichols was transferred to the Veteran Reserves.

Supernumerary Officers Mark Grady and J. F. Madigan were elected regulars to fill the vacancies caused by the retirement of Wm. C. Steele and the death of Maurice C. Foley.

Officer Twaddle was dismissed from the force and Supernumerary Fred. W. Smith was elected a regular in his place.

Five supernumeraries have been dismissed from the Department for the benefit of the service.

Two regular patrolmen and two supernumeraries have resigned their positions to engage in other business.

Supernumeraries Peter B. Gavin, John H. Welch and Albert G. Plant were appointed regular patrolmen.

Thirteen supernumeraries have been appointed by your Honorable Board the past year.

Detective Bureau.

Four hundred and forty-three (443) arrests have been made by the Officers connected with the Detective Bureau as follows:

Adultery	4
Arson	2
Assault and Battery	17
Assault with Intent to Kill	4
Assault with Intent to Murder	1
Assault with Intent to Commit Rape	1
Bastardy	1
Bigamy	1
Breach of Peace	12
Burglary	24
Cruelty to Animals	1
Demented	4
Drunk	13

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Embezzlement	12
Enticing female for purpose of prostitution	1
Evading Responsibility	3
Failure to pay Personal Tax	3
False Pretenses	15
Forgery	2
Fornication	13
Frequenting Gambling House	2
Frequenting House Assignation	4
Frequenting House Ill Fame	7
Frequenting Policy Game	23
Fugitives from Justice	14
Gambling	49
Habits of Vice	9
Horse Theft	2
Indecent Assault	1
Keeping Gambling House	6
Keeping House Assignation	2
Keeping House of Ill Fame	3
Keeping Policy Game	1
Malicious injury to Property	1
Manslaughter	1
Neglect of Child	1
Non-Support	18
Perjury	1
Rape	2
Receiving Stolen Goods	3
Reckless Driving	1
Robbery	8
Seduction	1
Suspicious Characters	11
Taking Auto without leave	4
Theft	93
Theft from Person	3
Vagrancy	5
Violation of Auto Law	8
Violation of City Ordinances	14
Violation of Liquor Law	3
Violation of Midwifery Law	3
Violation of Probation	2
Violation of Traffic Rules	2
Violation of condition of Bill of Sale	1
Complaints investigated	3,413
Lost and stolen property recovered	$11,382.22

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All Rag-Pickers, Second Hand, Lodging Houses, Pawn Brokers, Boot Blacks, Venders, Carriage and Express Licenses are issued by this Bureau and have increased greatly the past year.

Owing to the amount of work that is accomplished by the Detective Bureau, I am of the opinion that two more detectives appointed to the present force would add much to the efficiency of the Bureau.

Arrests.

The number of arrests made by the Police Department for the year was nine thousand and thirty-four (9034) and for the following crimes:

Abandoning wife and children	1
Adultery	4
Arson	2
Assault	2
Assault and Battery	178
Assault with intent to Kill	8
Assault with Intent to Murder	1
Assault with Intent to Rape	2
Assault on an Officer	2
Bigamy	1
Breach of peace	1,001
Breaking into R. R. Car	3
Burglary	34
Burglary, Attempt at	1
Capias	1
Contempt Court	2
Carrying Concealed Weapons	30
Cruelty to Animals	6
Danger falling into habits of vice	29
Defrauding Steamboat	1
Defrauding Restaurant	2
Delinquency Statute	3
Dependent	2
Disorderly house	7
Drunkenness	5,577
Embezzlement	15
Enticing Female for purpose of prostitution	1
Exposure Person	2
Evading R. R. Fare	5
Evading Responsibility on Highway	9
Failure to pay Personal Tax	150

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False Pretense	22
Forgery	2
Fornication	46
Fugitives from Justice	15
Gambling	69
Gambling House Keeping	5
Gambling House Frequenting	4
Hindering a witness	1
House Assignation	1
House Assignation Frequenting	5
House Ill Fame	12
House Ill Fame Frequenting	31
Indecent Assault	4
Indecent Exposure	1
Injury to Property	13
Injury to Public Building	1
Incorrigible Children	185
Interfering with an Officer	4
Manslaughter	2
Murder	1
Non-Support	63
Night-Walkers	32
Neglect of Child	16
Perjury	1
Practicing Midwifery without a License	1
Policy House Keeping	1
Policy House Frequenting	23
Rape	2
Receiving Stolen Property	4
Reckless Driving	4
Resisting Officer	29
Robbery	6
Runaways	26
Seduction	1
Selling Tobacco to Minors	3
Suspicious Characters	61
Thefts	262
Thefts from Person	17
Thefts from Person Attempt at	1
Truants	26
Taking Auto without leave	2
Taking Team without leave	6
Trespass on R. R.	65
Vagrants	260
Violation Auto Law	53
Violation Barber Law	8

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Violation Bicycle Law	1
Violation Bottle Law	5
Violation Butter Law	6
Violation City Ordinances	328
Violation Dog Law	1
Violation Employment Act	1
Violation Health Law	19
Violation License Law	48
Violation Lottery Law	1
Violation Milk Law	1
Violation Midwife Law	3
Violation Motor-Cycle Law	1
Violation Pawn-Brokers Law	1
Violation Picture Show Law	1
Violation Park Rules	1
Violation Pure Food Law	2
Violation Probation	71
Violation Sunday Law	2
Violation Tenement House Law	4
Violation Traffic Rules	58

Of the arrests made five thousand, five hundred and sixty-six (5566) were brought before the Police Court for trial.

Matron's Department.

The number of persons cared for in the matron's quarters the past year:

Women	491
Girls	57
Boys	147
Lost Children	179

Lost and Stolen Property.

Property valued at $18,853.98 which has been lost or stolen, was recovered by the Police Department and the same has been restored to the owners.

Stores Found Open.

Three hundred and seventeen (317) stores have been reported by the officers as being found open and in all cases the owners have been notified and loss of property thereby prevented.

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Insane Persons.

Thirty-three (33) insane people have been detained at the Police Headquarters under surveillance until they could be committed to an asylum.

Signal Service.

The assistance of the signal service in connection with the workings of the Police Department is of great value.

The calls attended are given below:

Alarms from boxes	2,763
Telephone Calls	1,663
Ambulance Calls	1,115
Sick and injured taken to Hospital	1,110
Sick and injured taken Home	119
Dead bodies taken to Morgue	39
Dead bodies taken to Residence	2
Dead bodies taken to Undertakers	62
Arrests made	8,522
Miles traveled by Ambulance	4,084
Miles traveled by Patrols	19,175

The present service has outgrown the Department and when the new signal system, with additional boxes, red lights and telephones, is installed, I venture to say that it will help in a great measure to bring up the efficiency of the Department to a higher standard.

Peddlers.

An Ordinance relating to Peddlers approved August 13, 1912, has worked very satisfactorily and $2009.20 has been received for such Licenses. Of this amount $383.40 was paid for Badges, Printing and Numbers and the balance $1625.80 paid to the City Treasurer.

Special Service.

$3,812.81 has been received for special services of supernumerary policemen.

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Licenses.

$2803.90 has been received for various Licenses issued:

Rag-pickers		$449.80
Boot Blacks		9.50
Second Hand		870.00
Pawn Brokers		350.00
Lodging Houses		190.00
Pool Rooms		640.00
Peddlers		280.00
Extra Badges and Numbers		14.60
		$2,803.90
Expenses:		
Paid T. M. Parker for Badges	$110.25	
Paid F. F. Skiff for Numbers	45.20	
Paid Case, Lockwood & Brainard, Printing	70.35	225.80
		$2,578.10

The balance, $2578.10, has been turned in to the City Treasurer.

The officer detailed on motor-cycle in the Parkville district last season gave good service in that section and I would recommend an additional motor-cycle to be used in the north section of the city.

The traffic conditions in the center of the city have increased to such an extent that it has become necessary to detail a sergeant to devote his whole time to the regulating of traffic, this gives the Department only one sergeant to look after the officers on their beats during the day. I would therefore advise the appointment of two more sergeants, one for street duty and one for the desk duty.

By appointing another desk sergeant it would relieve the Lieutenant of the desk duty and he could give his attention to matters of more importance.

Very respectfully submitted,

GARRETT J. FARRELL,
Chief of Police.

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REPORT

OF THE

INSPECTOR OF WIRES

To October 14, 1913

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REPORT

HARTFORD, CONN., March 24, 1913.

To the Honorable Court of Common Council of the City of Hartford:

GENTLEMEN: — In accordance with the city ordinance governing the Inspector of Wires, I hereby submit the following report for the year ended March 15, 1913:

	First Six Months.	Past Six Months.
Number of permits granted	976	857
Number of inspections made	1,204	997
Number of defective installations found in new work	307	157
Number of defective installations found in old work	52	35
Number of different applicants for permits	49	49

Electrical conditions in this city a year ago were very bad as there had been no inspection for several years and men and boys who knew very little of this business had by poor work endangered life and property. New work has been given first attention and care taken that all defects are removed before current is turned on. This work has improved greatly in the past six months, most defects found being on work done by men unfamiliar with electricity, who do this work as a side line. Theaters and public halls have been regularly inspected and such defects as were found, noted, and brought to the attention of the parties operating the property, and they have had these defects removed and the equipment placed in safe condition. As these places of amusement are fast growing in number, this work alone requires much time.

As electric wiring, usually of a temporary character, is used for decorative purposes during the Christmas holidays, careful inspection was made of all stores in the fire district. Many decorative effects were found to have been wired by unskilled

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workmen and therefore were in a dangerous condition. The defects were pointed out and fire hazard explained, after which the effects were properly rewired or not put to use.

Electric wiring properly installed is the safest method from which light or power can be secured, but the reverse is true with improper wiring. A systematic inspection of the city, especially of the fire district, is advisable as many buildings have been cut up and additions made to the electrical equipment by incompetent men, and the character of the work in many places is not in keeping with the surrounding conditions. Old work is given all attention possible, but owing to the great amount of new work and the time lost in travel this work is necessarily neglected. A small car would facilitate the new work and make possible the inspection of old work.

Respectfully submitted,

GEORGE W. PERRY,
Inspector of Wires.

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REPORT

HARTFORD, CONN., October 14, 1913.

To the Honorable Court of Common Council:

GENTLEMEN: — In compliance with the ordinance governing the Inspector of Wires, I hereby submit the semi-annual report ending September 30, 1913.

Permits issued for light wiring	838
Permits issued for power wiring	126
Total number of permits issued	964
Total number of lights installed	22,135
Total horse power of motors installed	891
Total number of motors installed	201
Number of inspections	1,152
Number of installations found defective	210
Number of new installations found defective	194
Number of old installations found defective	16
Theatre inspections	71

Respectfully submitted,

GEORGE W. PERRY,
Inspector of Wires.

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REPORT

OF THE

Commission on the City Plan

FOR THE

Year Ending March 31, 1913

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REPORT

HARTFORD, CONN., December 8th, 1913.

To the Mayor and Court of Common Council of the City of Hartford:

GENTLEMEN:—We respectfully submit the following report of the Commission on the City Plan for the year ending March 31, 1913.

The changes from last year in the personnel of the Commission were as follows:

Hon. Louis R. Cheney by his election as Mayor, succeeded Hon. Edward L. Smith; Benjamin Kashmann succeeded Robert A. McKone as representative of the Common Council; President Lyman B. Brainerd of the Board of Park Commissioners succeeded Mr. Francis Parsons; and Mr. William A. Graham was appointed a citizen member replacing Mr. William H. Honiss whose term expired on April 30th.

Eighteen regular and special meetings were held during the year, and definite action was taken on the acceptance of the following streets:

Amherst, Barker, Bidwell, Bonner, Brown, Campfield, Cherry, Cheshire, Colby, Cornwall, Douglas, Euclid, Exeter, Forster, Gilman, Harvard, Hillside Avenue, Humphrey, Linnmoore, Monroe, Morningside Avenue, Mountain, Palm, Plymouth, Princeton, Roger, Southbury, Thomaston, Tobey, West Hartford Boulevard, and Yale Street.

The Commission was also concerned with other matters than the development of the street plan of the City such as the Hucksters' Market; the House of Comfort; the question of a Public Market, etc., all of which will be hereinafter considered in detail.

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Street Development in Southern and Southwestern Sections of the City.

Considerable activity has been noticeable the past year in real estate development in the south and southwest portions of the City.

On account of topographical conditions, Wethersfield Avenue will probably for several years to come, mark the eastern limit of residential development to the south. To the west, however, there is yet considerable room for expansion, and that this is to be taken advantage of is indicated by propositions to your Honorable Court for acceptance of several streets included in the list above enumerated.

The section between Wethersfield Avenue and Franklin Avenue is now sufficiently provided with cross streets so that the land may be utilized for building purposes to its fullest extent. West of Franklin Avenue, however, there remains considerable hitherto undeveloped land, particularly south of South Street and west of Campfield Avenue. Propositions for the acceptance of several streets in this vicinity have received favorable consideration by this Commission, including extensions of several existing streets as well as some that are entirely new in their locations.

The lack of sewerage facilities in the large section of the city extending from Franklin Avenue on the east entirely across the remaining city territory even to the Town Line, and from Preston Street and New Britain Avenue southerly to Wethersfield and Newington is largely responsible for its retarded development. Yet under the methods now prescribed by the city charter it is an exceedingly difficult matter to carry through to the point where actual construction can be begun, the layout of a sewer or of a system of sewers, except the demand for the same be unanimous on the part of the property owners liable to assessment.

West of Fairfield Avenue and south of White Street lies a tract of undeveloped land forming the upper or southerly part of the Cemetery Brook watershed. The brook itself divides the tract into fairly equal parts, the land on the easterly side rising rapidly to Fairfield Avenue, and on the west somewhat less steeply to the ridge along whose summit lie Harvard and Mountain Streets, branching from White Street and New Britain Avenue, and where

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further south is located the Wildwood Sanitorium of the Hartford Hospital. This territory offers many choice residential locations, particularly on the long slope adjacent to Fairfield Avenue where is obtained an unobstructed view over the western sections of the city, and of the Talcott Mountains beyond. Sixteen new streets are planned for this section, and a rapid building up of the entire tract will undoubtedly follow.

Here, as well as on the easterly side of the Fairfield Avenue ridge, the sewerage problem is vital, and, on account of the presence of Cemetery Brook, is even more complicated.

In the northern part of the city the greatest demand for new street development has concentrated about the northerly sections of Blue Hills Avenue. In the report of this Commission for the year 1911 attention was called to the arrangement of streets west of Blue Hills. Regular proceedings for the final acceptance of these streets are now under way in your Honorable Court, with bright prospects for results eminently satisfactory both to the community and to those who are the owners of the land embraced by the plan.

Extending this development, has come the past year the street systems petitioned for by Mr. E. J. Holl on the east side of Blue Hills Avenue between Holcomb Street and Tower Avenue, and by Mr. E. A. Simpson on both sides of Blue Hills Avenue adjacent to the City Line.

In response to Mr. Holl's petition, this Commission considered a substitute plan prepared under its direction by the Department of Engineering, and including all the undeveloped territory on the east side of the avenue extending from Holcomb Street on the south to the City Line on the north. On this plan a comprehensive scheme of street development was worked out which would be free from the limitations imposed by restricted individual efforts on the part of the neighboring land owners, each to plot his own land without regard to the interests of his neighbors or the convenience of the traveling public.

This plan, which was explained to the interested land owners at a hearing held by this Commission, met with their general approval, and if not unanimously endorsed, was, however, not actively opposed.

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The layout of streets proposed thereby includes a street running north from Holcomb Street to the City Line substantially along the division line between the Almshouse property of the City and privately owned land extending to Blue Hills Avenue. From this north and south street several east and west streets are planned to extend to Blue Hills Avenue and being generally parallel to Holcomb Street. These streets will divide the intervening land into strips of sufficient width each to accommodate two rows of building lots of from one hundred and twenty-five to one hundred and fifty feet in depth.

In addition to these streets above described, there is proposed a second north and south street to be an extension of Ridgefield Street. This street will extend along the crest of the ridge east of Blue Hills Avenue. Owing to the steepness of the slopes in both east and west directions from the ridge, some modifications of the original plan may be found necessary in order that prohibitive grades may be avoided.

The street above mentioned as being adjacent to the Almshouse property should ultimately contain the main drainage outlet for the northern portion of the Gully Brook watershed. The Gully Brook branch of the intercepting sewer has already been constructed to a point near the Almshouse, and as the land beyond this point becomes built up, will have to be extended to prevent contamination of the waters of the brook.

The arrangement of streets proposed by Mr. E. A. Simpson covers a territory extending on both sides of Blue Hills Avenue from Tower Avenue to and across the City Line into the Town of Bloomfield. West of Blue Hills Avenue it supplements the group of streets laid out some years ago by Mr. E. A. Kenyon, and east of the avenue it forms a continuation of the plan described in the preceding paragraphs.

Owing to the fact that several of the north and south streets in this tract extend across the line into Bloomfield, it will be necessary to obtain from the authorities of that town, notice of formal acceptance of these streets in order to avoid the possible acceptance by the City of dead-end streets.

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PUBLIC COMFORT STATION.

The suit of the United States Government *v.* the City of Hartford for a permanent injunction restraining the city from erecting a public comfort station on the east side of City Hall adjacent to the Federal Building, was withdrawn early in the present year from the United States Circuit Court, and steps were immediately taken by the joint special committee of your Honorable Court, of which this Commission forms a part, to proceed with the construction of this station. It is expected that this work will be completed during the season of 1913.

PARK RIVER IMPROVEMENT.

As a result of the investigation and report on the condition of Park River and the measures to be taken to improve the same, as explained in the last annual report of this Commission, the Board of Street Commissioners and the Board of Park Commissioners have agreed on a plan for carrying out the work of putting the banks and bed of the stream in a more sightly condition, and at the same time of widening Jewell Street and Wells Street. This work will be accomplished by stages as the finances of the city will allow.

Respectfully submitted,

LOUIS R. CHENEY
R. H. FOX
L. B. BRAINERD
G. A. PARKER
JOSEPH BUTHS
BENJ. KASHMANN
WILLIAM A. GRAHAM
AUGUSTINE LONERGAN
ROSCOE N. CLARK
Commission on the City Plan.

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ANNUAL REPORT

OF THE

DEPARTMENT OF ENGINEERING

TO THE

COURT OF COMMON COUNCIL OF THE
CITY OF HARTFORD

For the Year Ending March 31, 1913

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ORGANIZATION.

ROSCOE N. CLARK, City Engineer.

HERBERT G. CLARK, Assistant City Engineer.

HARRY G. WHITMAN, Chemist.

JOHN P. MURPHY, Division Engineer.

WILLARD S. BREWER, Division Engineer.

ROBERT J. ROSS, Assistant Engineer.

ALDEN WELLS, Assistant Engineer.

H. IRVING SKILTON.	PAUL P. KIMBALL.
JOHN F. DORAN.	GEORGE S. FRANCIS.
E. SELDEN GEER, JR.	THOMAS ROWLAND.
FLORENCE L. CHAPIN.	HAROLD R. WHITE.
GEORGE ANGELO.	CLEMENT M. BRODERICK.
F. PERRY CLOSE.	JOSEPH CALLAGHAN.

EDWARD L. DONAGHUE.

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REPORT

HARTFORD, CONN., NOVEMBER 10, 1913.

To his Honor the Mayor, and to the Honorable Court of Common Council of the City of Hartford, Connecticut.

Sirs:—

I have the honor to submit the following report of the work of the Department of Engineering for the year ending March 31, 1913.

SEWER DIVISION.

To the sewer division is entrusted the designing of all sewers, the preparation of their layouts, the detailing of the schedules of their assessments under instructions of the Board of Street Commissioners, and the supervising of their construction, including the preparation of estimates for payment.

During the year 3.95 miles of sewer were constructed at a cost of $65,234.39. Among the more prominent works in this list are the final work on the East Side Intercepting Sewer amounting to about $7,000; the completion of the system west of Wood's River, including Albany Avenue, Scarborough Street, Bloomfield Avenue and Prospect Avenue; the work for the year amounting to about $18,000; the rebuilding of old sewers in Kilbourn, Front, and Temple Streets, $5,500, and new sewers in Pleasant and Windsor Streets, $4,000.

As an indication of the expansion of the residence section of the city, may be mentioned the construction of the Albany Avenue and Scarborough Street System of sewers, of sewers in Broadview Terrace and Wilton Street in the southwest part of the city and where more sewer work is contemplated for 1913; sewers in Brown Street and Meadow Street in the south part of the city, and sewers in Newton, Milford, Adams and Thomaston Streets in the west and northwest.

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It is to be hoped that the difficulties in the way of financing the Maple Avenue sewer system may be speedily and satisfactorily arranged so that this greatly needed improvement may be completed without further delay.

The completion of the Pumping Station during the summer of 1913 will be the final work on the East Side Flood Protection under present authorization of your Honorable Court. In this connection I desire to repeat the recommendation made in my last annual report, viz.— that inasmuch as the relief to be afforded by the works now under construction will not extend south of State Street owing to the absence of a dyke in front of this section, steps should be taken as soon as the finances of the city will permit, to carry out the general plans for the continuation of this work as outlined in the report of the joint special committee submitted in 1908.

The construction of a conduit to complete the covering in of Gully Brook which was anticipated as a part of the season's work for 1912, is still held in abeyance on account of assessment difficulties.

New work contemplated for the coming season includes a sewer in Terry Road, tributary to Albany Avenue; sewers in Bonner, Catherine, Ledger and Wilton Streets west of Hillside Avenue.

On account of the objections of land owners through whose property it was proposed to extend the Homestead Avenue Intercepting Sewer along the east bank of Wood's River north of Albany Avenue, the Board of Street Commissioners deemed it advisable to consider an alternate location, and in place of the former layout which would have comprised a main sewer extending from the present terminus of the intercepting sewer at Albany Avenue northerly along the river bank to an ultimate destination at Bloomfield, with branches at suitable locations from which to reach the rapidly developing sections lying along the easterly slope of Wood's River watershed, have recommended the extension of the main line of the intercepting sewer along Homestead Avenue itself, to and across Albany Avenue east of the Central New England Railway and thence through a proposed street parallel and closely adjacent to the railway, passing along the

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watershed further from the river than in the layout first proposed and providing drainage for only those lands east of the railway. While this alternate layout would ultimately be required in any event, as indeed will the one abandoned for the time being, it is much more expensive and satisfies the immediate demands to no greater extent.

Owing to the great area and rapid slopes of the territory tributary to the Homestead Avenue Intercepting Sewer, a conduit of sufficient capacity to carry the run-off due to our heaviest storms would have to be so large as to be very expensive, and would have necessitated the rebuilding of the entire Gully Brook Conduit from Walnut Street to the Park River. The sewer was therefore designed and constructed of a size which would accommodate the normal dry weather sewage flow, based on the water consumption of the district when fully populated, with the intention of providing storm sewers where necessary which would convey the surplus water in times of storm to the Wood's River. One such overflow has already been provided at the Albany Avenue bridge over the river, and as the sewer is extended, as before outlined, and the system of lateral sewers is amplified, it will be necessary to provide others, one being now particularly needed to relieve Blue Hills Avenue north of Westbourne Parkway.

The Maple Avenue system of sewers when completed will deliver rapidly to the Franklin Avenue sewer at South Street, large quantities of storm water that now find their way there slowly and circuitously by means of the natural water courses. As this district becomes further developed and the percentages of roof area and improved street surface increase, this storm water burden will be greater than the Franklin Avenue Sewer can carry, and unless relief is provided, cellar flooding will occur on both sides of Franklin Avenue from Preston Street southerly to Folly Brook.

In order to anticipate this trouble and to prevent damage to existing buildings, and, further, to encourage the development of the lands fronting on this splendid avenue by assuring prospective home seekers of adequate sewerage facilities, I recommend that immediate steps be taken looking toward the construction of a relief conduit to extend easterly from Franklin Avenue through South Street and across private lands to discharge this surplus

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storm water into the brook which drains the meadows east of Wethersfield Avenue.

IMPROVED PAVEMENTS

Thus far the city has been limited to the laying of only one-half mile of improved pavement in any one year except on petition of owners of one-half the frontage on any street. As I recommended in my last annual report, this limit should be increased to two or even more miles in order that Hartford may keep up with the progress made in other cities in this respect. A measure is now before the General Assembly for the purpose of making such an amendment to the City's Charter.

At the present time there are fifteen to twenty miles of our streets upon which should be improved pavement as a substitute for the present unsatisfactory macadam. Among the more important of these streets exclusive of those which are to be paved the coming season, are the following:

Wethersfield Ave. from South Green to the City Line.
Windsor Ave. from Capen to Windsor Streets.
Albany Ave. from East St. to Blue Hills Ave.
Park St. from Main St. to Prospect Ave.
Maple Ave. from Wyllys St. to Morris St.
Arch Street.
Prospect St. from Atheneum St. to Arch St
Commerce Street.
Grove Street from Talcott St. to Commerce St.
Temple St. from Market St. to Front St.
Talcott St. from Market St. to Front St.
Market St. from Morgan St. to Pleasant St.
Windsor St. from Pleasant St. to Windsor Ave.
Church St. from Trumbull St. to Union Place.
Chapel Street.
Jewell Street.
Wells Street.
Capitol Ave. from Main St. to Washington St.

It can readily be seen that at the rate of two miles a year, several years must elapse before our busiest streets are placed in the proper condition required by modern sanitary and economic demands.

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NEW PAVEMENT.

The half-mile of new pavement, all sheet asphalt, was laid the past season on the following streets:

Sheldon St. from Union St. to Commerce St.
Front St. from Sheldon St. to State St.
Grove St. from Prospect St. to Front St.
State St. from Front St. to Connecticut Boulevard.

Aside from the general improvement incident to the paving of a street, certain special features in connection with the work on Front Street deserve special mention. On this street in its unimproved condition, differences as great as two feet existed in the elevations of the curbs from one side of the street to the other. The grade from the bridge over the Park River to Sheldon Street was abrupt, and at the rate of six feet rise in one hundred. The curbs are now level across the street, and the objectionable six per cent. grade has been reduced to three per cent. This change necessitated raising the roadway across the bridge between two and three feet, the building of new concrete walks, and the erecting of a new iron railing which is in harmony with the general improvement.

The new improved pavement laid the past season amounted to 10,583.97 square yards and cost $23,081.04.

The total length of streets having improved pavement is now 10.81 miles, and the number of square yards 263,303.93. This includes 240,492.86 square yards of sheet asphalt, 2,095.55 square yards of block asphalt, 942.60 yards of wood block, and 19,361.92 yards of granite blocks.

Paving tables brought up to date and containing valuable data of a miscellaneous nature are appended to this report.

One new table appears which gives the variety of asphalt used in paving each of the several streets.

RESURFACING.

The major portion of the asphalt resurfacing work the past season was done on Main Street. The new surface was substituted for the old, worn pavement which had been doing duty for about sixteen years. The new pavement was laid on the west side

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from Park Street to Engine House No. 1 and from Wells Street to High Street. On the east side the renewal was from Atheneum Street to Central Row and from State Street to Windsor Street.

With the exception of a strip on the east side from Exchange Corner to Central Row, and from a point just south of Charter Oak Avenue to Wyllys Street, all of the pavement on Main Street has been renewed during the past three seasons, and the roadway is now in excellent condition.

Prospect Street was resurfaced from Central Row to Grove Street, and on Asylum Hill the asphalt strip on the sides of the roadway were renewed from Spruce Street to Garden Street.

In connection with the paving work on Main Street, and in addition to the changes at certain curb corners, as stated elsewhere, decided improvements were brought about at the intersections of Main Street with Gold, Kinsley and Temple Streets. At these points previous to the renewing of the pavement, the Main Street gutters were continuous across the intersecting streets carrying the surface water, and causing disagreeable conditions in wet weather. These intersections are now built up in an approved manner, catch basins have been adjusted or new ones built where necessary, and in addition to presenting a better appearance and being better adapted to all classes of traffic, they are now dry at all times.

This resurfacing work amounted to 19,921.96 square yards and the total cost of the work was $26,000. These figures do not include a small amount of work done by the Connecticut Company.

PAVING REPAIRS.

The necessity for repairs on improved pavements is occasioned in two ways; either by the appearance of worn places or by cuts made in excavating for general underground work. Up to the expiration of the guarantee period on sheet asphalt (usually five years) any worn places which may occur are repaired by the company who laid the original pavement and at their expense. After the guarantee period has expired the city pays for repairs. The cost for restoring the cuts in the pavement made in excavating the streets is borne by the company responsible. The work of

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restoring the pavement over these cuts is supervised by the city authorities, the paving contractor being paid therefor directly by the corporations responsible.

As a rule, asphalt pavement which has been down eight or ten years is likely to require patching twice a year and this is especially true of some of the earlier pavements laid without the binder course. Without the binder on one-way traffic streets, the asphalt is likely to roll and the pavement ravel at the thin places near the rolls.

For the past ten years all of the asphalt pavement in this city has been laid with a binder course, and it is only in the pavements laid previous to that time that the rolling up of the asphalt has given any trouble.

As the area of improved pavements increases and the necessity continues for opening them to repair leaks, to build duct lines, etc., strict supervision of the back-filling of the trenches becomes very important. Upon the back-fill to a large extent depends the permanency of the surface patch over the cut.

During the past season $9,262.46 was expended for repairs on improved paved streets. This amount proportioned over the 247,801.31 square yards of improved pavement in the city at the beginning of the last fiscal year, gives 3.7 cents as the average cost per square yard for repairs for all pavements.

NECESSITY AND PENALTY FOR OPENING PAVEMENTS.

There is some just and much unjust criticism on the part of the public whenever city streets are dug up for any sub-surface work. A fact which should be understood and accepted is that as long as our city is progressive it will be necessary from time to time to cut the pavements.

The first improved pavement work of any extent done in Hartford was in 1896 or about sixteen years ago. Since that date the city has grown rapidly and therefore the demands upon the telephone, telegraph, and electric light wires, the water and gas pipes, etc., have been largely increased. To meet this increased demand it has been necessary to open the streets to replace these conduits with others of larger capacity. Aside from

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increased consumption there is always in a progressive city a demand for better service, and to meet this it becomes necessary occasionally to replace certain underground construction. This underground system which becomes antiquated may have been built in accordance with the best practice at the time of its installation, but the world is daily finding better ways of doing things and if the desired improvement calls for opening the street there are only two paths from which to choose, either to put up with conditions as they exist, or to be temporarily inconvenienced while the street is torn up. The ruling that all of the unsightly overhead wires must be placed underground is responsble for many of the openings made in the pavements in the last few years. It will be a sad day for Hartford, as it would be for any city, if the time ever comes when the streets are never cut. When such a time arrives it simply means that the city has ceased to grow, is not progressive but is satisfied with conditions as they are.

The point I wish to bring out is that when a street is torn up it does not necessarily mean mismanagement, as many unthinking and uninformed persons are inclined to believe.

Emergencies may occur at any time such as sudden breaks, which will necessitate opening the street, but as construction methods and equipment improve, these occasions should become less frequent. I could point to a few cases where a new street has been torn up a year or two after being built, when with proper study and foresight on the part of the company responsible, their changes might have been made previous to the paving of the street.

The various companies interested are given ample previous notice of the city's intended street improvements, and are instructed to complete any necessary repairs or changes before a fixed date in advance of the time it is expected that the paving work will begin. In view of this fact I felt that when it becomes necessary for any company to open a newly laid pavement solely on account of the ignoring of these notices, or through lack of ordinary foresight on their part, permission to cut the pavement should be granted only under special conditions. Under this provision, permission should be granted only on condition that the company forfeit a substantial sum of money to the city as liquid-

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ated damages suffered by the city on account of injury to the pavement, and loss of use of the street during such time as the latter may be obstructed.

PAVING PROPOSED FOR 1913.

During the coming season new paving will be laid on the following streets:

SHEET ASPHALT—

Front Street from State St. to Morgan St.
Morgan Street from Market St. to Front St.
Pleasant Street from Windsor St. to the Railroad.
Marsh Court from Market St. to Village St.

GRANITE BLOCKS—

Church Street from Spruce St. west about 50 feet.
Spruce Street from Church Street north about 500 feet.

Farmington Avenue will also be resurfaced with sheet asphalt from Asylum Street to Woodland Street. The work will be started after the completion of the duct lines which is to be installed by The Hartford Electric Light Company and the relaying of the Street Railway tracks by the Connecticut Company. New asphalt will be laid about the triangle at the Tunnel as soon as the proposed new track-work is finished.

CORNERS CUT BACK TO LONGER RADII.

In connection with the paving of Main Street, the following curb corners were cut back to curves of longer radii in order to facilitate the turning of these corners by vehicles.

Both corners of Main Street and Capitol Avenue; the south corner of Main and Kinsley Streets; both corners of Main and Temple Streets; the north corner of Main and Talcott Streets; both corners of Main and Trumbull Streets; and at the angle in the west curb of Main Street opposite Morgan Street. The northwest and southeast corners of State and Front Streets were also cut back in connection with the paving of State Street and Front Street; and the south corner of Allyn Street and Union Place, and the east corner of Farmington Avenue and Sisson Avenue were also cut back. At the latter corner there is now

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room for a team and a car to pass simultaneously with perfect safety. In connection with this improvement the generous public spirit of the owner who gave the necessary land to the city free of charge is to be commended, and the fact that the Connecticut Company contributed liberally toward the actual physical cost of the work should be mentioned. Both corners of Francis Avenue and Park Street were cut back and here again the change at the west corner was made possible through the cooperation of the owner who donated the necessary land free of expense to the city.

The west corner of Laurel Street and Park Street was changed to give more clearance between the curb and the track. In this case land was donated by the owners and the work was paid for by the Railroad Company.

TRACK WORK.

The track work during the past season was not as extensive as in some previous years. Profiles were furnished the Connecticut Company and the following work was done under the supervision of this department.

On Park Street new double tracks were laid from Main to John Streets and from Sisson Avenue to Laurel Street.

On Franklin Avenue the east track was renewed from Bond Street to Brown Street.

On State Street the tracks were regraded in connection with the new paving work.

On Blue Hills Avenue from Holcomb Street to the Bloomfield line a new track was laid in such a location that it will be the east track of a double track line when the street is ultimately double tracked.

On Wethersfield Avenue a change was made from single to double tracks between the City Line and a point near Eaton Street.

It has been the custom for several seasons for the Street Railway Company to build a concrete foundation under its tracks in a street upon which an improved pavement is to be laid. This practice as shown by the perfect condition of the pavement adja-

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cent to the rails on Asylum Street and Ford Street should always be followed.

TRACK WORK PROPOSED FOR 1913.

Track work planned for the coming season is as follows:

On Farmington Avenue new double tracks will be laid from Asylum Street to Sigourney Street.

On Morgan Street tracks will be overhauled in connection with the paving of the street.

On Wethersfield Avenue the tracks will be relaid from Elliott Street to Eaton Street.

On Main Street at the Tunnel new tracks will be installed.

UNDERGROUND CONDUITS.

The policy of placing wires underground has been continued during the past year, and the various corporations have built conduits in about two miles of streets as selected by the Board of Street Commissioners. In this connection it should be noted that the Connecticut Company has made a good start in the work of placing their feed wires underground, which work they are expected to complete throughout the city within the next two years. An effort is made to have the installation of the duct lines precede the paving or repaving of a street, and the improvements on Front Street from Sheldon Street to Potter Street were accordingly held up several weeks to enable the Connecticut Company to complete their conduits.

The locations for the various duct lines are assigned by this department, and the corporations are expected to conform to the layouts furnished them. Before assigning a location, the positions of all other pipes and conduits which may be already in the street, is ascertained as accurately as possible, and a study is made of the probable future demands for room in the street before a new location is given or approved.

During the construction of the conduits, frequent inspections are made with a view to locating any underground pipe lines of which no good records exist and to insure that the work is being carried on to the best interest of the street and the city.

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CONCRETE CURBS AND SIDEWALKS.

The use of concrete as a material for curb and sidewalk construction is steadily growing in favor in this city, and during the past season several miles of each have been constructed.

Painstaking effort on the part of the builders and constant vigilance on the part of the inspectors are necessary in order to obtain work that is both stable and of good appearance.

Concrete curbs are particularly adapted for use on residential streets on account of the uniformly finished appearance they give to a street, and because if once properly constructed almost no further expenditure for maintenance is necessary.

Concrete walks may be used to advantage on all classes of streets, and if the surfaces are properly treated, are less slippery than any other smooth-surfaced walk.

A new concrete walk was built the past season on the roadway extending across Pope Park from Laurel Street to Park Terrace. This walk is eight feet wide and is built upon a foundation of cinders provided with a tile underdrain. The work was done by contract, for the Park Department.

Where a street is to be newly paved with material other than macadam, it is invariably found necessary to have the curbs reset to proper line and grade.

Under the present system it is customary for the Board of Street Commissioners to have notices sent to owners of abutting property ordering them to have the curbs reset within a specified time, in advance of the paving work. The result of this is that this resetting of curbs is carried out in a manner lacking in uniformity and in regularity, and at an increased cost both to the property owner and to the city; to the former because it obviously costs more per foot to set fifty feet of curb than it does to set five hundred or a thousand feet, and to the city because employees in this department are required to make many visits to the work at irregular intervals according to the needs of the different contractors doing the work. The economical way to accomplish the desired result is to have the entire work of resetting curbs on any street done by one contract after competitive bidding, and then to apportion the cost among the abutting owners according to their

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respective frontages. By letting the work as a whole the cost to the owners would be less, and the work could be done consistently and could be handled to better advantage by the engineers.

PARK STREET AT RAILROAD CROSSING.

A much needed improvement has been brought about the past year on Park Street at the railroad bridge. At this point previous to the late changes the roadway was extremely narrow and the overhead room so slight that only the smallest trolley cars could pass under the bridge. In addition to the regular abutments the bridge was supported by columns resting upon brownstone walls at either side of the restricted roadway.

A new, modern steel-girder bridge has been constructed by the Railroad Company at an elevation which will admit of the passing of the largest trolley cars. With this new bridge, the supporting columns, which with the old bridge necessitated the narrowing of the roadway, have been dispensed with. The roadway is now double-tracked and is thirty-six feet wide. A combination retaining wall and curb of concrete has been built which carries the sidewalk at an elevation of from one to four feet above the roadway surface. A substantial pipe railing has been erected, the supporting posts being imbedded in the concrete wall. The street has been repaved with granite blocks and new sidewalks have been laid. The entire expense of the work was assumed by the Railroad Company. A view showing the conditions as they now exist appears in this report.

ELEVATIONS IN HARTFORD.

This office is frequently called upon for information in regard to the relative elevations of streets in different parts of the city, and believing that the figures will be of general interest, a list of elevations at several different points about the city is appended.

In the first place it should be made clear just what is meant when we say that a street is at elevation 100 or 200 or whatever the figures may be. In Hartford all elevations are based upon the mean low-water level of Long Island Sound at Saybrook, this elevation being taken as zero. Therefore when we say, for instance, that a certain point in our city is at elevation one hun-

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dred and thirty-one and five-tenths, (131.5), we are but saying in fewer words that such point is one hundred and thirty-one and one-half feet above average low-water at Long Island Sound. The elevation of the center at the north end of the east balustrade at the State Street entrance to the Post Office was established by the United States Army Engineer Corps at elevation 58.116 feet, and this value was used as a datum in the leveling work in connection with the building of the new Connecticut River Bridge, and all freshet levels recorded by the gauge at the steamboat docks are also with relation to this datum. There appears to be a discrepancy of 1.574 feet between the city's system of elevation which was established some years ago, and that of the United States Army Engineer Corps. By the city system the elevation of the balustrade at the Post Office previously described is 59.690 feet, and to reduce the army elevations to City datum, 1.574 feet should be added. This would make the record freshet of 1854 recorded as 29 feet 10 inches (29.83), 31.404 by the city datum. The range in elevation from our lowest to our highest streets is about 210 feet. The lowest streets in the city are of course those adjacent to the Connecticut River. Many of these streets were formerly flooded by every considerable freshet. The flooding has been partly overcome by the building of the Connecticut River bridge approach and Connecticut Boulevard; the raising of the freight yards north of Morgan Street and the construction of the new east side sewer and pumping station.

The highest street in Hartford is Prospect Avenue at the summit between Asylum Street and Albany Avenue, the elevation being about 230 feet. The second highest street is Holcomb Street at the Blind Institution where the elevation is about 180 feet.

The Engineering Department has established an extensive system of bench marks or reference points of elevation throughout the city, the elevations of which are determined to a thousandth of a foot. These bench marks are used for all leveling work and are established upon definite points not likely to be disturbed.

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A list of elevations at various points throughout the city follows:

Main St.	at	City Hall	is at	elevation	about	61.80	feet
Main St.	"	Tunnel	" "	"	"	64.50	"
Albany Av.	"	Blue Hills Av.	" "	"	"	64.00	"
Albany Av.	"	Prospect Av.	" "	"	"	147.50	"
Blue Hills Av.	"	Tower Av.	" "	"	"	148.50	"
Blue Hills Av.	"	City Line	" "	"	"	143.30	"
Windsor Av.	"	Mahl Av.	" "	"	"	84.40	"
Windsor Av.	"	Windsor St.	" "	"	"	33.20	"
Windsor Av.	"	City Line	" "	"	"	51.00	"
Windsor St.	"	R. R. cross.	" "	"	"	31.50	"
Asylum St.	"	Junction with Farm. Av	" "	"	"	83.90	"
Asylum St.	"	Woodland St.	" "	"	"	69.60	"
Asylum St.	"	Prospect Av.	" "	"	"	149.80	"
Farmington Av.	"	Cathedral	" "	"	"	88.00	"
Farmington Av.	"	Woodland St.	" "	"	"	59.50	"
Farmington Av.	"	Sisson Av.	" "	"	"	71.00	"
Farmington Av.	"	Prospect Av.	" "	"	"	100.60	"
Park St.	"	Main St.	" "	"	"	62.00	"
Park St.	"	Washington St.	" "	"	"	83.50	"
Park St.	"	Zion St.	" "	"	"	94.50	"
Park St.	"	Sisson Av.	" "	"	"	67.70	"
Park St.	"	Prospect Av.	" "	"	"	75.00	"
Capitol Av.	"	Washington St.	" "	"	"	82.50	"
Summit St.	"	Vernon St.	" "	"	"	155.20	"
New Britain Av.	"	Oliver St.	" "	"	"	132.00	"
New Britain Av.	"	City Line	" "	"	"	52.00	"
Wethersfield Av.	"	Bond St.	" "	"	"	60.30	"
Wethersfield Av.	"	City Line	" "	"	"	34.60	"
Franklin Av.	"	Bond St.	" "	"	"	47.20	"
Franklin Av.	"	City Line	" "	"	"	51.00	"
Maple Av.	"	Bond St.	" "	"	"	85.00	"
Maple Av.	"	Junction Fairfield Av.	" "	"	"	152.00	"
Fairfield Av.	"	White St.	" "	"	"	158.50	"
Fairfield Av.	"	summit S. of N. Britain Av.	" "	"	"	165.00	"

TESTING LABORATORY.

In the past year the usual chemical and physical tests were made on the many different materials which enter into the city's

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uses, such as asphalts, oils, coal, cements, sand, paint, rubber hose, and in fact everything that requires examination. It may be of interest at this time to give a brief description of the sources of our asphalt supply. Trinidad natural asphalt is obtained from the island of Trinidad located in the Caribbean Sea a little north of the north coast of South America. This island furnishes two grades of material, one which is called pitch lake asphalt, and the other, land asphalt. The lake asphalt is a large deposit of the material, in what is supposed to have been a large mud volcano. The area of this circular lake of asphalt is about one hundred and twenty-seven acres in extent, and the depth is not definitely determined but it is estimated that there are many millions of tons in the mass. This crude asphalt is refined by melting and evaporating off the water which it contains, after which it is ready for use at the asphalt paving plants.

The Trinidad land asphalt is of an inferior grade to that found in the lake and is evidently asphalt which has run over the ground from that source. The mass being in thin layers has been more or less affected by the weather, etc. This asphalt is of such a character that it is not used to any great extent in the asphalt paving indusry.

Bermudez pitch lake asphalt, a natural asphalt which has been used to a large extent in this city, is found in the State of Bermudez in the northern part of Venezuela a few miles from the coast and almost directly west of the deposit found in the island of Trinidad. This deposit is different in character from the one previously described, as its source seems to be from what is known as maltha springs. From these springs there exudes at the present time a soft material about the consistency of a heavy coal tar which becomes harder as the distance from the source increases. This lake of asphalt is about one and one-half square miles in area, composed of maltha springs and the hardened, crusted material which has spread out from them. The overflow has been hardened by the action of the sun and fires which have swept over it, so that a crust has been found nearly two feet thick and from under this the asphalt is obtained which after refining is used in the making of pavements.

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A class of asphalts very extensively used in paving work is obtained by the distillation of petroleums which have an asphaltic base; that is, after the distillation of such petroleums an asphaltic residue remains. Such oils are found in Kansas, California, Texas and Mexico. The eastern oils after distillation leave a paraffine residue instead of asphalt. In the preparation of such asphalts or residual pitches, extreme care must be taken that in the process of distilling off the lighter or more volatile portions, a temperature is not reached which will injure it for use as a paving cement. At the present time these precautions are taken and many of these asphalts are used with satisfaction. California residual asphalt has been used in paving some of the streets in this city.

In the uses of the various asphalts above described, great care is taken to see that they meet the definite specifications set forth by the city. The contractors bidding on work are obliged to hand in samples of asphalt and oils with their bids which must pass the specifications in order that the bid may be considered. At the asphalt plant everything that enters into a new pavement is carefully considered. The sand is graded, the asphaltic cement is brought to the proper consistency, or softness, the proper amount of filler or limestone dust is determined. If the traffic on a street to be paved is heavy, the sand must be finer and a more dense mixture made, while on a light traffic street the sand can be coarser and yet be better for that particular street. In mixing the materials, the sand and asphaltic cement are heated separately and definite amounts of each are added to the mixing machine with the proper amount of limestone dust, after which the mixture is turned over and over until it becomes a homogenous mass. The dust is added to fill the voids in the sand and increase the stability of the finished pavement. After the mixing is completed the material is ready to be carted to the street and laid. In this city a course of binder is laid previous to the topping. This binder is properly graded, stone coated with pure asphaltic cement and gives the topping material a chance to stick or bind. This obviates the rolling up or the formation of waves in the asphalt surface which has occurred in a few of the earlier pavements.

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WORK DONE BY STREET DIVISION.

To the Street division of the Department is assigned the variety of work involved in the layout of new streets, the changes in building and veranda lines on existing streets, and the staking out of lines and grades in connection with their development, construction and maintenance. Merestones are also set at angles, curves, and street intersections to permanently define the street lines. Surveys and plans are made for various purposes. A description of the work done the past year, is as follows:

Layouts were prepared for the acceptance of the following streets. Barker, Bonner, Bradford, Catherine, Cherry, Edgewood, Hamilton, Harwich, Henry, Ledger, Newbury, North Front, Roxbury, Thomaston, and Wilton Streets; Capitol Avenue and Francis Avenue and West Hartford Boulevard.

Layouts were prepared for changes in street, building or veranda lines on Bonner, Center, Eaton, East, Enfield, Forest, Greenwood, Holcomb, James, Park, Plainfield, and Prospect Streets, and on Fairfield, Farmington, Hillside, New Britain and Wethersfield Avenues.

New street lines were established at the corners of several streets to provide the necessary space for the subsequent increase in the curb radii. This was done at the southeast corner of Farmington and Sisson Avenues; also at the southwest corner of New Britain avenue and Broad Street.

Sidewalk and curb lines were established on Blue Hills, Francis, Farmington, Homestead, New Park and Prospect Avenues, and on Front, Garden, Park, White and Windsor Streets, and on Marsh Court.

New curb radii were established on Main Street at the corners of Trumbull, Talcott, Temple, Capitol Avenue, and the angle opposite Morgan Street; on Park Street at the southwest corner of Zion Street, and on Allyn Street at the southeast corner of Union Place.

Layouts were prepared for the establishment of new grades on Arch, Broad, Case, Cheshire, Front, Pleasant, White and Windsor Streets, and Marsh Court.

Each year since 1902 the Engineering Department has set merestones to define the lines of streets in various parts of the

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city. It is obviously of great value to all city and private surveyors as well as to all property owners to have the street lines permanently marked. Reinforced concrete monuments five feet in length have, after three years' trial, proved to be the most satisfactory form to meet the soil conditions in Hartford.

One hundred and fifty of these concrete monuments were made at the City Yard and were set at the angles, curves, and intersections of various streets, all stones being set on offset lines two feet out from the street lines.

GRADE CROSSING ELIMINATION.

On December 20, 1912, I submitted a preliminary report to your Honorable Court's Joint Standing Committee on Railroads, *in re* elimination of railway grade crossings along the line of the New York, New Haven and Hartford Railroad south of Union Station. On the recommendation of your committee your Honorable Court instructed the Corporation Counsel to petition the Public Utilities Commission for an order for the elimination of such crossings, which petition was afterward amended by including therein a petition for an order for a new crossing on the line of Capitol Avenue extended westerly from Willow Street. This matter is now before the Public Utilities Commission and an early and favorable finding is hoped for.

In my last annual report I outlined briefly the action taken in regard to the elimination of the crossings at Avon, Windsor and Russell Streets. Since then no definite information has been received from the Railroad Company, and I am inclined to believe that it will not voluntarily unite with the city in a petition for the elimination of these crossings. In view of the fact that these crossings are a greater menace to human lives and cause far greater inconvenience to vehicular traffic than any other crossings in the city, steps should be taken without further delay to bring the matter officially to the attention of the Public Utilities Commission.

PROPERTY TRANSFERS.

The customary routine work in connection with recording all transfers of real estate and plotting all sub-divisions on reference

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maps, was attended to as in the past, about three thousand transfers being recorded during the year.

The usual set of property maps, one hundred and thirty-three in number, and including the area of the entire city, was made for the Board of Assessors.

Eighteen maps filed by land owners with the Town Clerk were transferred to the map-book in his office.

The annual street sprinkling assessment containing about ten thousand names and covering upward of eighty-six miles of sprinkled streets was prepared for the Board of Street Commissioners.

DRAIN LAYERS.

Forty-nine drainlayers licenses were issued for the calendar year of 1912, under which 747 permits were issued. The total number of permits issued under the present system which was adopted in May, 1903, is 4,817 to date of December 31, 1912.

I acknowledge with appreciation the support and cooperation extended to the department by your Honorable Court and by the several other boards and departments of the City Government. The assistant engineers and other employees in the department have been loyal and efficient in the performance of their several duties.

Respectfully submitted,

ROSCOE N. CLARK,

CITY ENGINEER

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LIST OF SEWERS BUILT DURING YEAR ENDING MARCH 31, 1913

Street.	Location.	Contractor.	Size.	Material.	Length.	House Connections. No.	House Connections. Length.	Manholes.	Cost.
Adams Street	Homestead Ave. to Albany Ave.	John Dinallo	12"	Tile	633'	31	465'	4	$ 1,588.52
			10"	Tile	280'				
Affleck Street	Lincoln St., to Allen Pl.	Rocco Branciere	8"	Tile	184'	1	15'	0	207.00
Albany Avenue & Scarborough Street	Wood's River to Prospect Ave. Albany Ave. to Asylum Ave.	Hartford Paving and Construction Co.	36"	Brick	276'	19	340'	15	9,664.35
			30"	Tile	529'				
			24"	Tile	249'				
			20"	Tile	1467'				
			18"	Tile	301'				
			12"	Tile	503'				
			10"	Tile	324'				
			24"	Cast Iron	102'				
Bloomfield Avenue	Albany Ave. to City Line	Berardino Silvestri	18"	Tile	14'	25	325'	5	6,330.00
			20"	Tile	600'				
			24"	Tile	914'				
Broadview Terrace	Chandler St. northeasterly	Joseph Dart	12"	Tile	92'	0	0'	1	323.90
			15"	Tile	149'				
Brown Street	George St. to Campfield Av. Ext.	Berardino Silvestri	10"	Tile	300'	13	195'	1	936.00
Center Street	Mather St. to Seyms St.	Frank Dinallo	12"	Tile	242'	4	70'	2	417.81
Chadwick Avenue	Park St. to Smith St.	A. W. Bryne Co. Inc.	15"	Tile	166'	28	350'	4	1,348.42
			12"	Tile	251'				
			10"	Tile	246'				
East Side Interceptor in Avon Street	Tile branches	Hartford Paving and Construction Co.	24"	Tile	244'		916'	8	6,964.08
	Village to North Front St.		12"	Tile	338'				
North Front Street	Avon St. to near Pequot St.		12"	Tile	155'				
Pleasant Street	Market St. to Railroad	Joseph Tozzoli	15"	Tile	155'			2	270.00
Edgewood Street	Interceptor to Enfield St.		12"	Tile	37'				

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LIST OF SEWERS BUILT DURING YEAR ENDING MARCH 31, 1913—Continued

Street.	Location.	Contractor.	Size.	Material.	Length	House Connections. No.	House Connections. Length.	Manholes.	Cost.
Essex Street	Maple Ave. to Retreat Ave.	John Dinallo	10"	Tile	442'	18	180'	3	861.93
Front Street	Talcott St. to Temple St.	John Manocchio	15"	Tile	357'	21	310'	1	1,207.98
Front Street	State to Temple (See Kilbourn)								
Grand Street	Oak to Lafayette (See Oak St.)								
Homestead Avenue	Woodland St. to E. of Stirling St.	Domenick Nero	18"	Tile	265'	8	120'	4	1,037.26
			15"	Tile	230'				
			10"	Tile	200'				
Interceptor Repairs	N. of Park St. & W. of Park River	Berardino Silvestri	36"	Reinforced Concrete	368'	0	0'	1	6,448.55
Kilbourn Street	Charles St. to Front St.	John Manocchio	20"	Tile	17'	45	1,062'	8	5,455.65
Front Street and Temple Street	Kilbourn St. to State St.		24"	Tile	487'				
	Kilbourn St. to Temple St.		18"	Tile	279'				
	Front St. to Market St.		15"	Tile	473'				
Meadow Street	Wethersfield Ave. easterly	Hfd. Pav. & Cons. Co.	10"	Tile	300'	8	100'	2	440.36
Milford Street	Homestead Ave. to Albany Ave.	John Dinallo	24"	Tile	750'	6	90'	6	3,449.85
			20"	Tile	439'				
			18"	Tile	112'				
			15"	Tile	57'				
Newton Street	Park St., northerly	Berardino Silvestri	12"	Tile	650'	20	305'	3	1,293.09
Niles Street and Private Lands	Niles St. southerly between Sigourney & Marshall Sts.	J. J. Russo	10"	Tile	152'	0	0'	0	190.00
Oak Street and Grand Street	End of old sewer to Grand St.	John Dinallo	12"	Tile	166'	11	179'	2	420.86
	Oak St., to Lafayette St.		10"	Tile	209'				
Olds Place	Wethersfield Ave. easterly	Joseph Tozzoli	—	—	—	—		1	40.00
Pleasant Street and Windsor Street	Village St. to Windsor St.	Hartford Paving & Construction Co.	24"	Tile	169'	34	170'	4	3,985.72
	Pleasant St. to near Main St.		18"	Tile	206'				
			15"	Tile	299'				
			10"	Tile	151'				

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Prospect Avenue	Albany Ave. to Top of Hill	Hfd. Pav. & Cons. Co.	15" Tile 65' 12" Tile 300' 10" Tile 726'	0	0'	4	1,835.13
Prospect Street	Near Arch St. to Elk's Club						
Scarborough Street	Albany Ave to Asylum St. (See Albany Avenue)	Edward Balf Co.	10" Tile 300'	1	15'	1	800.00
State Street (Sanitary Sewer only)	Commerce St. to W. of Front St.	Berardino Silvestri	12" Tile 408' 15" Tile 342'	18	90'	4	2,173.00
Temple Street	Front St. to Market St. (See Kilbourn St.)	John Manocchio	12" Tile 274' 18" Tile 10'	1	15'	1	736.78
Temple Street	Market St. westerly						
Thomaston Street	Blue Hills Ave. to Ridgefield St.	John Manocchio	10" Tile 352' 12" Tile 282'	0	0'	3	769.90
Wilton Street	Bonner St. across private lands to Wilton St. thence to Zion St. & to Hillside Ave.	F. B. & W. H. O'Neil	33" Brick Concrete 485' 15" Tile 234' 10" Tile 475'	0	0'	7	9,000.00
Windsor Street	Avon to Pleasant Sts.	Domenick Nero	20" Tile 295' 18" Tile 393' 12" Tile 245'	57	1,264'	4	3,038.25
Windsor Street	Pleasant to near Main St. (See Pleasant St.)						
			Totals 20,888' Miles 3.95	363	6,576'	101	65,234.39

SUMMARY BY MATERIALS

Tile	19,128 ft.	= 3.62 Miles	= 91.7%	Total length	
Reinforced Concrete	368 ft.	= 0.07 "	= 1.7%	"	"
Brick and Concrete	485 ft.	= 0.09 "	= 2.3%	"	"
Brick	805 ft.	= 0.15 "	= 3.8%	"	"
Cast Iron	102 ft.	= 0.02 "	= 0.5%	"	"
	20,888 ft.	= 3.95 "	= 100.0%	"	"

SUMMARY BY METHOD OF PAYMENT	Length in feet	Length in miles	Per cent total length	Cost	Per cent total cost
Built and paid for by private parties under the Drain Layers' Rules	3,287	0.62	15.7	$6,536.80	10.0
Cost wholly assessed on property benefited	11,708	2.22	56.0	28,247.22	43.3
Cost divided between city and property	4,045	0.76	19.4	14,864.74	22.8
97% cost paid by city (East Side Intercepting Sewer System)	1,480	0.28	7.1	9,137.08	14.0
Entire cost paid by city	368	0.07	1.8	6,448.55	9.9
	20,888	3.95	100.0	$65,234.39	100.0

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RECORD OF IMPROVED PAVEMENTS IN HARTFORD TO JANUARY 1, 1913

STREET	LOCATION	DESCRIPTION	KIND	Tracks	Price per sq.yd.	Assessment per front foot	Final Payment	Guarantee Expires
Albany Avenue	Windsor Ave. to East St.	Paved	Sheet Asphalt	D. T.	$2.51	$2.1002	Nov. 12, 1900	Nov. 12, 1905
Albany Avenue	Tunnel to East St.	N. side & tracks resurfaced	Sheet Asphalt	D. T.	1.65	By City	Dec. 4, 1909	Dec. 4, 1914
Allyn Street	Trumbull to Union Pl.	Paved	Sheet Asphalt	No	2.56	3.5590	June 12, 1899	June 12, 1904
Amer. & Cen. Rows	E. of Post Office	Paved	Block Asphalt	D. T.	3.04	5.5600	Oct. 12, 1896	Oct. 12, 1901
Amer. & Cen. Rows	E. of Post Office	Repaved	Granite Block	D. T.	3.79	By City	Dec. 1, 1909	Dec. 1, 1910
Ann Street	Asylum to Allyn St.	Paved	Sheet Asphalt	No	2.56	2.7908	Oct. 10, 1898	Oct. 10, 1903
Asylum Street	Spruce to Farmington Ave.	Paved	Granite Block	D. T.	3.09	6.1030	Nov. 14, 1898	July 14, 1899
Asylum Street	Spruce to Farmington Ave.	Tracks relaid	Granite Block	D. T.			1911	
Asylum Street	Main to Ford St.	Paved	Block Asphalt	S. T.	3.14	2.8680	Nov. 8, 1897	Nov. 8, 1902
Asylum Street	Spruce to Farmington Ave.	Paved	Sheet Asphalt	D. T.	2.75	6.1030	Nov. 14, 1898	Nov. 14, 1903
Asylum Street	Ford to Spruce St.	Paved	Block Asphalt	D. T.	3.14	4.8955	Sept. 26, 1898	Sept. 26, 1903
Asylum Street	Main to Spruce St.	Repaved	Sheet Asphalt	S. & D	2.28	By City	Oct. 12, 1908	Oct. 12, 1918
Asylum Street	Spruce to Garden St.	N. side resurfaced						
Asylum Street	Spruce to Hopkins St.	S. side resurfaced	Sheet Asphalt	D. T.	1.27	By City	July 23, 1912	July 23, 1917
Atheneum Street	Prospect to Main St.	Paved	Sheet Asphalt	D. T.	1.27	By City	July 23, 1912	July 23, 1917
Broad Street	Bridge over Park River	Paved	Sheet Asphalt	No	2.49	1.3350	Nov. 9, 1896	Nov. 9, 1901
Capitol Avenue	Lafayette to Park River	Paved	Sheet Asphalt	No			1897	
Capitol Avenue	Lafayette to Broad St.	N. side resurfaced	Sheet Asphalt	D. T.	1.90	1.8393	Nov. 26, 1900	Nov. 26, 1905
Capitol Avenue	Lafayette to Broad St.	S. " resurfaced	Sheet Asphalt	D. T.	1.65	By City	July 11, 1910	July 11, 1915
Capitol Avenue	Broad St. to Park River	Both sides	Sheet Asphalt	D. T.	1.27	By City	Oct. 4, 1911	Oct. 4, 1916
		resurfaced	Sheet Asphalt	D. T.	1.27	By City	Oct. 4, 1911	Oct. 4, 1916
Capitol Avenue	Park River to Laurel St.	Paved	Sheet Asphalt	D. T.	2.71	2.2816	Nov. 10, 1909	Nov. 10, 1914
Capitol Avenue	Bridge over Park River	Paved	Brick Block	S. T.			1895	
Capitol Avenue	Bridge over Park River	Repaved	Wood Block	S. T.	2.65	By City	Dec. 6, 1911	No guarantee
Central Row	Main to Post Office	Paved	Block Asphalt	D. T.	3.04	5.5600	Oct 12, 1896	Oct. 12, 1901
Central Row	Main to Post Office	Repaved	Sheet Asphalt	D. T.	2.71	By City	Dec. 1, 1909	Dec. 1, 1914
Church Street	Main to Trumbull St.	Paved	Sheet Asphalt	No	2.59	2.1163	Nov. 8, 1897	Nov. 8, 1902

Church Street	*Main to Trumbull St.*	Resurfaced	Sheet Asphalt	No	$1.67	By City	July 28, 1909	July 28, 1914
Church Street	Union Pl. to Spruce St.	Paved	Sheet Asphalt	No	2.51	3.001	Nov. 26, 1900	Nov. 26, 1905
Farmington Avenue	Asylum to Woodland St.	Paved	Sheet Asphalt	D. T.	2.59	2.4274	Nov. 13, 1899	Nov. 13, 1904
Farmington Avenue	Sigourney to Woodland St.	Tracks relaid	Sheet Asphalt	D. T.			1909	
Farmington Avenue	Woodland to Tremont St.	Paved	Sheet Asphalt	D. T.	2.59	3.7618	Dec. 12, 1910	Dec. 12, 1915
Farmington Avenue	Tremont to Prospect Ave.	Paved	Sheet Asphalt	D. T.	2.25	3.4867	Dec. 5, 1911	Dec. 5, 1916
Ford Street	Pearl to Asylum St.	Paved	Block Asphalt	D. T.	3.14	4.8955	Sept. 26, 1898	Sept. 26, 1903
Ford Street	Pearl to Asylum St.	Repaved	Sheet Asphalt	D. T.	2.25	By City	Oct. 12, 1908	Oct. 12, 1918
Front Street	State to Sheldon St.	Paved	Sheet Asphalt	No	2.10	2.6025	Dec. 9, 1912	Dec. 9, 1917
Gold Street	Main to Lewis St.	Paved	Sheet Asphalt	No	2.55	3.0566	Sept. 11, 1898	Sept. 11, 1903
Grove Street	Main to Prospect St.	Paved	Sheet Asphalt	No	2.55	2.3179	July 25, 1898	July 25, 1903
Grove Street	Prospect to Front St.	Paved	Sheet Asphalt	No	2.16	1.7303	Oct. 23, 1912	Oct. 23, 1917
Hamilton Street	Bridge over Park River	Paved	Sheet Asphalt	No			1898	
Haynes Street	Pearl to Asylum St.	Paved	Block Asphalt	No	3.14	3.0667	June 27, 1898	June 27, 1903
High Street	Asylum to Main St.	Paved	Sheet Asphalt	No	2.56	2.6884	Aug. 14, 1899	Aug. 14, 1904
High Street	Church St. to Main St.	Resurfaced	Sheet Asphalt	No	1.27	By City	May 19, 1911	May 19, 1916
Hopkins Street	Broad to Asylum St.	Paved	Sheet Asphalt	No	2.58	2.3865	June 12, 1899	June 12, 1904
Kinsley Street	Market to Main St.	Paved	Sheet Asphalt	No	2.56	1.9910	Oct. 10, 1898	Oct. 10, 1903
Laurel Street	Bridge over Park River	Repaved	Brick	S. T.	2.40	By City	July 11, 1900	
Laurel Street	Bridge over Park River	Paved	Brick	S. T.			1894	
Lewis Street	Pearl to Gold St.	Paved	Sheet Asphalt	No	2.51	1.808	Sept. 24, 1900	Sept. 24, 1905
Main Street	Arch to Morgan St.	Paved	Sheet Asphalt	D. T.	2.49	5.4887	Dec. 14, 1896	Dec. 14, 1901
Main Street	Morgan to Windsor Ave.	Paved	Sheet Asphalt	D. T.	2.70	4.6395	Oct. 11, 1897	Oct. 11, 1902
Main Street	Wyllys to Arch St.	Paved	Sheet Asphalt	D. T.	2.66	4.5759	Oct. 25, 1897	Oct. 25, 1902
Main Street	State St. north	Tracks repaved	Wood Block	D. T.			1903	
Main Street	Engine House No. 1 to Wells	W. side resurfaced	Sheet Asphalt	D. T.	1.59	By City	Nov. 16, 1910	Nov. 16, 1915
Main Street	Charter Oak Ave. to Atheneum St.	E. " resurfaced	Sheet Asphalt	D. T.	1.59	By City	Nov. 16, 1910	Nov. 16, 1915
Main Street	Jefferson to Park St.	W. " resurfaced	Sheet Asphalt	D. T.	1.27	By City	Oct. 25, 1911	Oct. 25, 1916
Main Street	Windsor St. to Windsor Ave.	N. " resurfaced	Sheet Asphalt	D. T.	1.27	By City	Oct. 25 1911	Oct. 25, 1916
Main Street	Jefferson to Park St.	Tracks resurfaced	Sheet Asphalt	D. T.			1912	
Main Street	Wyllys to N. end of South Green	Tracks resurfaced	Sheet Asphalt	D. T.			1908	

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RECORD OF IMPROVED PAVEMENTS IN HARTFORD TO JANUARY 1, 1913—Concluded

STREET	LOCATION	DESCRIPTION	KIND	Tracks	Price per sq.yd.	Assessment per front foot	Final Payment	Guarantee Expires
Main Street	Park to No. 1 Engine House	W. side resurfaced	Sheet Asphalt	D. T.	$1.27	By City	Dec. 3, 1912	Dec. 3, 1917
Main Street	Triangle N. end S. Green	Resurfaced	Sheet Asphalt	D. T.	1.27	By City	Dec. 3, 1912	Dec. 3, 1917
Main Street	Athenæum to Cen. Row	E. side resurfaced	Sheet Asphalt	D. T.	1.27	By City	Dec. 3, 1912	Dec. 3, 1917
Main Street	State to Windsor St.	E. side resurfaced	Sheet Asphalt	D. T.	1.27	By City	Dec. 3, 1912	Dec. 3, 1917
Main Street	Wells to Ann St.	W. " resurfaced	Sheet Asphalt	D. T.	1.27	By City	Dec. 3, 1912	Dec. 3, 1917
Market Street	State to Temple St.	Paved	Sheet Asphalt	S. T.	2.56	3.6700	Oct. 10, 1898	Oct. 10, 1903
Market Street	Temple to Morgan St.	Paved	Sheet Asphalt	S. T.	2.56	2.3270	Oct. 9, 1899	Oct. 9, 1904
Market Street	State to Morgan St.	W. side & tracks resurfaced	Sheet Asphalt	S. T.	1.65	By City	Aug. 4, 1909	Aug. 4, 1914
Morgan Street	Market to Main St.	Paved	Granite Block	S. T.	3.09	2.1525	Dec. 27, 1898	Aug. 27, 1899
Mulberry Street	Main to Wells St.	Paved	Sheet Asphalt	No	2.55	2.6970	Nov. 14, 1898	Nov. 14, 1903
Park Street	Under R. R. Bridge	Paved	Granite Block	S. T.	3.35	By City	Nov. 27, 1899	July 27, 1900
Park Street	Under R. R. Bridge	Relaid	Granite Block	S. T.	1.35	By City	Oct. 4, 1910	No guarantee
Park Street	Under R. R. Bridge	Repaved	Granite Block	D. T.	Paid	By R. R.	1912	
Park Street	Bridge over Park River	Paved	Sheet Asphalt	D. T.		By R. R.	1898	
Park Street	Bridge over Park River	Relaid	Sheet Asphalt	D. T.	Paid		1912	
Pearl Street	Main to Ford St.	Paved	Block Asphalt	S. T.	2.89	3.8380	July 22, 1895	July 22, 1900
Pearl Street	Main to Ford St.	Repaved	Sheet Asphalt	S. T.	2.70	By City	Sept. 10, 1903	Sept. 10, 1913
Pearl Street	Main to Ford St.	Tracks relaid	Sheet Asphalt	D. T.			1910	
Pleasant Street	Winthrop to Main St.	Paved	Sheet Asphalt	No	2.56	2.3373	July 11, 1898	July 11, 1903
Pratt Street	Main to Trumbull St.	Paved	Brick	No		By City	1892	
Pratt Street	Main to Trumbull St.	Surfaced	Sheet Asphalt	No	1.68	1.4285	Aug. 14, 1899	Aug. 14, 1904
Prospect Street	Atheneum St. to Central Row	Paved	Sheet Asphalt	No	2.55	2.5256	July 25, 1898	July 25, 1903
Prospect Street	Grove to Central Row	Resurfaced	Sheet Asphalt	No	1.27	By City	Oct. 23, 1912	Oct. 23, 1917
Sheldon Street	Main to Union St.	Paved	Sheet Asphalt	No	2.20	2.5747	Oct. 4, 1911	Oct. 4, 1916
Sheldon Street	Union to Commerce St.	Paved	Sheet Asphalt	No	2.16	3.0100	Oct. 23, 1912	Oct. 23, 1917
Spruce Street	Asylum to Church St.	Paved	Sheet Asphalt	No	2.51	3.0163	Oct. 1, 1900	Oct. 1, 1905
State Street	Main to Commerce St.	Paved	Block Asphalt	D. T.	3.04	5.5600	Oct 12, 1896	Oct. 12, 1901
State Street	City Hall to Main St.	Repaved	Sheet Asphalt	S. T.	2.71	By City	Dec. 1, 1909	Dec. 1, 1914
State Street	Front St. westerly	Repaved	Sheet Asphalt	D. T.	2.71	By City	Dec. 1, 1909	Dec. 1, 1914
State Street	Front St. to Conn. Boulevard	Repaved	Sheet Asphalt	D. T.	2.16	By City	Dec. 9, 1912	Dec. 9, 1917

State Street	Conn. Boul. to Commerce St.	Covered	Macadam	No		By City		1908	
State Street	Front St. to City Hall	Repaved	Granite Block	D. T.	$3.79	By City	Dec. 1, 1909	Dec. 1, 1910	
Talcott Street	Market to Main St.	Paved	Granite Block	No	3.09	2.7184	Sept. 26, 1898	May 26, 1899	
Talcott Street	Market to Main St.	Paved	Sheet Asphalt	No	2.75	2.7184	Sept. 26, 1898	Sept. 26, 1903	
Temple Street	Market to Main St.	Paved	Sheet Asphalt	No	2.56	1.9753	Oct. 10, 1898	Oct. 10, 1903	
Trinity Street	Capitol Ave. to Ford St.	Paved	Sheet Asphalt	S. T.	2.59	3.3084	Dec. 13, 1897	Dec. 13, 1902	
Trinity Street	Capitol Ave. to Bridge	E. side & tracks resurfaced	Sheet Asphalt	D. T.	1.90	By City	July 7, 1908	July 7, 1913	
Trumbull Street	Asylum to Main St.	Paved	Sheet Asphalt	No	2.56	3.9690	July 11, 1898	July 11, 1903	
Trumbull Street	Pearl to Asylum St.	Paved	Block Asphalt	No	3.14	6.7600	June 27 1898	June 27, 1903	
Union Place	Asylum to Church St.	Paved	Granite Block	No	3.37		1894		
Village Street	City Park to Pleasant St.	Paved	Sheet Asphalt	No	2.56	3.8233	June 12, 1899	June 12, 1904	
Village Street	Windsor St. north	Paved	Sheet Asphalt	No	2.56	3.8233	Nov. 14, 1898	Nov. 14, 1903	
Windsor Avenue	Main to Capen St.	Paved	Sheet Asphalt	D. T.	2.59	2.8253	Sept. 11, 1899	Sept. 11, 1904	
Windsor Avenue	Main to Canton St.	Tracks relaid	Sheet Asphalt	D. T.			1907		
Windsor Avenue	Canton to Capen St.	Tracks relaid	Sheet Asphalt	D. T.			1910		
Windsor Street	Main to the Park	Paved	Granite Block	No	3.09	3.8233	Nov. 14, 1898	July 14, 1899	
Windsor Street	The Park to Pleasant St.	Paved	Sheet Asphalt	No	2.56	3.8233	July 25, 1898	July 25, 1903	

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IMPROVED PAVEMENT IN HARTFORD, JANUARY 1, 1913

STREET	LOCATION	Tracks	Sheet Asphalt sq. yards	Granite Block sq. yards	Asphalt Block sq. yards	Brick sq. yards	Wood Block sq. yards	L'gth in Miles
Albany Avenue	Windsor Ave. to East St.	D. T.	4,520.00	.....	.....	.....	.....	0.21
Allyn Street	Trumbull St. to Union Pl.	No	6,041.00	.....	.....	.....	.....	0.29
Amer. & Cen. Rows	E. of Post Office	D. T.	.....	1,885.00	.....	.....	.....	0.03
Ann Street	Asylum St. to Allyn St.	No	1,170.26	.....	.....	.....	.....	0.06
Asylum Street	Spruce to Farmington Ave.	D. T.	.....	4,658.72	.....	.....	.....	0.16
Asylum Street	Spruce to Farmington Ave	D. T.	1,701.58	.....	.....	.....	.....	...
Asylum Street	Main to Spruce St	S. T. & D. T.	10,351.20	.....	.....	.....	.....	0.48
Atheneum Street	Prospect to Main St.	No	558.33	.....	.....	.....	.....	0.07
Broad Street	Bridge over Park River	No	451.55	.....	.....	.....	.....	0.02
Capitol Avenue	Lafayette to Park River	D. T.	15,075.34	.....	.....	.....	.....	0.60
Capitol Avenue	Park River to Laurel St.	D. T.	4,067.50	.....	.....	.....	.....	0.18
Capitol Avenue	Bridge over Park River	S. T.	.....	.....	.....	.....	442.60	0.03
Central Row	Main St. to Post Office	D. T.	2,000.00	.....	.....	.....	.....	0.05
Church Street	Main to Trumbull St.	No	1,399.24	.....	.....	.....	.....	0.11
Church Street	Union Pl. to Spruce St.	No	957.00	.....	.....	.....	.....	0.06
Farmington Avenue	Asylum to Prospect Ave.	D. T.	42,630.44	.....	.....	.....	.....	1.60
Ford Street	Pearl to Asylum St.	D. T.	2,658.90	.....	.....	.....	.....	0.10
Front Street	State to Sheldon St.	No	5,191.46	.....	.....	.....	.....	0.30
Gold Street	Main to Lewis St.	No	1,458.00	.....	.....	.....	.....	0.08
Grove Street	Main to Front St.	No	2,342.07	.....	.....	.....	.....	0.19
Hamilton Street	Bridge over Park River	No	369.00	.....	.....	.....	.....	0.02
Haynes Street	Pearl to Asylum St	No	.....	.....	718.42	.....	.....	0.05
High Street	Asylum to Main St.	No	6,341.00	.....	.....	.....	.....	0.42
Hopkins Street	Broad to Asylum St.	No	3,135.80	.....	.....	.....	.....	0.21
Kinsley Street	Market to Main St.	No	1,037.20	.....	.....	.....	.....	0.09
Laurel Street	Bridge over Park River	S. T.	.....	.....	.....	411.0	.....	0.02
Lewis Street	Pearl to Gold St.	No	1,085.00	.....	.....	.....	.....	0.10
Main Street	Wyllys to Windsor Ave.	D. T.	56,414.27	.....	.....	.....	.....	1.47
Main Street	State St. north	D. T.	.....	.....	.....	.....	500.00	0.06
Market Street	State to Morgan St.	S. T.	5,255.28	.....	.....	.....	.....	0.25
Morgan Street	Market to Main St.	S. T.	.....	1,520.87	.....	.....	.....	0.10

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IMPROVED PAVEMENTS IN HARTFORD JANUARY 1, 1913—Continued

STREET	LOCATION	Tracks	Sheet Asphalt sq. yards	Granite Block sq. yards	Asphalt Block sq. yards	Brick sq. yards	Wood Block sq. yards	L'gth in Miles
Mulberry Street	Main to Wells St.	No	1,298.85	.....	.....	.....	.....	0.08
Park Street	Under R. R. Bridge	D. T.	.....	560.00	.....	.....	.....	0.03
Park Street	Bridge over Park River	D. T.	555.50	.....	.....	.....	.....	0.02
Pearl Street	Main to Ford St.	D. T.	8,188.50	.....	.....	.....	.....	0.32
Pleasant Street	Winthrop to Main St.	No	1,010.41	.....	.....	.....	.....	0.07
Pratt Street	Main to Trumbull St.	No	1,438.00	.....	.....	.....	.....	0.11
Prospect Street	Atheneum to Central Row	No	1,802.62	.....	.....	.....	.....	0.13
Sheldon Street	Main to Commerce St.	No	5,640.26	.....	.....	.....	.....	0.35
Spruce Street	Asylum to Church St.	No	2,286.00	.....	.....	.....	.....	0.12
State Street	City Hall to Main St.	D. T.	1,395.00	.....	.....	.....	.....	0.04
State Street	Front to Conn. Boulevard	D. T.	2,609.94	.....	.....	.....	.....	0.09
State Street	Front St. westerly	D. T.	343.10	.....	.....	.....	.....	...
State Street	Front St. to City Hall	D. T.	.....	4,501.81	.....	.....	.....	0.15
Talcott Street	Market to Main St.	No	.....	950.42	.....	.....	.....	0.09
Talcott Street	Market to Main St.	No	340.20	.....	.....	.....	.....	...
Temple Street	Market to Main St.	No	1,051.87	.....	.....	.....	.....	0.09
Trinity Street	Capitol Ave to Ford St.	S. T. & D. T.	6,947.80	.....	.....	.....	.....	0.27
Trumbull Street	Asylum to Main St	No	5,341.77	.....	.....	.....	.....	0.25
Trumbull Street	Pearl to Asylum St.	No	.....	.....	1,377.13	.....	.....	0.04
Union Place	Asylum to Church St.	No	.....	3,267.00	.....	.....	.....	0.12
Village Street	Windsor to Pleasant St.	No	1,927.30	.....	.....	.....	.....	0.11
Windsor Avenue	Main to Capen St.	D. T.	19,786.20	.....	.....	.....	.....	0.75
Windsor Street	Main St. to the Park	No	.....	2,018.10	.....	.....	.....	0.06
Windsor Street	The Park to Pleasant St.	No	2,318.12	.....	.....	.....	.....	0.11
Totals—			240,492.86	19,361.92	2,095.55	411.0	942.60	10.81

Total yardage all pavements— 263,303.93 sq. yds.
Total length in miles— Asphalt—9.87 miles
Granite block—0.74 miles. Asphalt block—0.09 miles.
Brick—0.02 miles. Wood block—0.09 miles.
Total length all pavements—10.81 miles.

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TABLE SHOWING THE NUMBER OF SQUARE YARDS AND THE MILEAGE ACTUALLY COVERED OF THE DIFFERENT KINDS OF IMPROVED PAVEMENT LAID IN HARTFORD SINCE 1892. THIS TABLE INCLUDES ONLY NEW PAVEMENT LAID—NO REPAIR WORK

Year Laid	BRICK		BLOCK ASPHALT		GRANITE BLOCK		WOOD BLOCK		SHEET ASPHALT		Total Yardage Laid Each Year	Total Miles
	Yardage	Miles	Yardage	Miles	Yardage	Miles	Yardage	Miles	Yardage	Miles		
1892	1,427.55	0.11	.....	....	.....	....	.....	....	.....	....	1,427.55	0.11
1894	4,411.00	0.02	.....	....	3,267.00	0.12	.....	....	.....	....	3,678.00	0.14
1895	442.60	0.03	7,755.50	0.32	.....	....	.....	....	.....	....	8,198.10	0.35
1896	.....	....	12,063.32	0.38	.....	....	.....	....	21,466.71	0.63	33,530.03	1.01
1897	.....	....	6,694.04	0.36	.....	....	.....	....	45,074.48	1.51	51,768.52	1.87
1898	.....	....	8,925.19	0.32	9,148.10	0.40	.....	....	21,974.39	1.11	40,047.68	1.83
1899	.....	....	.....	....	560.00	0.03	.....	....	63,784.40	3.10	64,344.40	3.13
1900	.....	....	.....	....	.....	....	.....	....	23,923.34	1.06	23,923.34	1.06
1903	.....	....	.....	....	.....	....	600.00	0.06	8,188.50	0.32	8,788.50	0.38
1908	.....	....	.....	....	1,756.94	0.07	.....	....	13,010.10	0.58	14,767.04	0.65
1909	.....	....	.....	....	4,629.87	0.12	.....	....	7,805.60	0.28	12,435.47	0.40
1910	.....	....	.....	....	.....	....	.....	....	14,487.97	0.50	14,487.97	0.50
1911	.....	....	.....	....	.....	....	442.60	0.03	10,963.41	0.50	11,406.01	0.53
1912	.....	....	.....	....	.....	....	.....	....	10,583.97	0.58	10,583.97	0.58
Totals	2,281.15	0.16	35,438.05	1.38	19,361.91	0.74	1,042.60	0.09	241,262.87	10.17	299,386.58	12.54

NOTE: The original paving on several streets has been removed and replaced by other pavements, and since this table contains both the original and the present pavement, the totals given here exceed the total yardage and miles in use at the present time as shown in another table.

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THE FOLLOWING SUMS HAVE BEEN EXPENDED FOR REPAIRS ON PAVED STREETS TO JANUARY 1, 1913

Street.	Previous to 1902	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	Total.
Albany Avenue,	.....	.....	.....	$7.19	.....	$17.00	$198.06	$190.72	$200.41	$28.25	$110.67	$160.27	$912.58
Allyn Street,	.....	.....	$30.37	.....	$17.67	124.89	109.75	163.69	451.30	156.37	352.54	460.50	1867.08
Amer. & Cent. Rows,	.....	$435.23	360.00	973.98	50.02	412.44	2.98	413.24	.....	.....	.....	.....	2647.89
Ann Street,	.....	.....	.....	.....	.....	.....	.....	6.40	.....	5.64	.....	8.14	20.18
Asylum Street,	.....	.....	358.92	1460.01	686.01	745.67	232.46	165.83	245.25	189.43	231.85	.....	4315.43
Atheneum Street,	.....	.....	.....	.....	.....	.....	.....	11.47	15.45	5.91	88.23	148.71	269.77
Broad Street Bridge,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17.52	20.18	37.70
Capitol Avenue,	.....	.....	.....	.....	36.10	483.43	1668.31	1303.49	1343.15	1727.88	.....	.....	6562.36
Church Street,	.....	.....	169.56	40.85	91.17	168.77	325.43	139.56	53.48	71.44	139.08	160.06	1359.40
Farmington Avenue,	$748.70	.....	254.02	1351.28	879.91	1929.23	2810.71	909.28	3110.96	2180.38	3333.76	1928.94	19437.17
Ford Street,	.....	.....	.....	236.32	.....	414.40	1.12	.....	.....	.....	95.55	.....	747.39
Gold Street,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26.50	23.55	50.05
Grove Street,	.....	.....	.....	.....	.....	.....	.....	39.24	56.20	58.31	23.43	109.49	286.67
Hamilton St. Bridge,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	70.06	.....	70.06
Haynes Street,	.....	.....	93.16	.....	.....	.....	.....	.....	.....	20.13	.....	142.84	256.13
High Street,	.....	.....	.....	98.56	28.37	418.45	515.60	309.02	1108.58	580.22	262.06	228.80	3549.76
Hopkins Street,	.....	.....	.....	243.77	.....	216.60	272.37	768.46	390.62	694.15	522.98	392.37	3501.32
Kinsley Street,	.....	.....	32.34	.....	.....	.....	.....	.....	12.35	.....	.....	13.53	58.22
Lewis Street,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.89	24.73	33.62
Main Street,	245.56	147.22	1809.57	1083.77	2414.36	3783.59	3783.59	3672.51	4168.23	2831.77	1899.11	958.50	29527.60
Market Street,	88.14	210.69	113.67	363.12	92.93	80.47	828.89	288.90	261.93	232.01	129.15	515.45	3205.35
Morgan Street,	.....	.....	57.47	.....	.....	35.59	.....	8.80	7.35	8.56	74.03	.....	191.80
Mulberry Street,	.....	.....	.....	.....	28.22	.....	25.69	51.07	13.68	.....	29.93	39.24	187.83
Park Street,	17.49	.....	122.40	.....	106.89	.....	.....	103.72	.....	.....	.....	.....	350.50
Pearl Street,	968.05	.....	10.97	165.84	.....	.....	41.38	.....	.....	2.77	.....	20.07	1209.08
Pleasant Street,	.....	.....	.....	9.91	.....	.....	.....	.....	.....	54.26	10.31	.....	74.48
Pratt Street,	16.20	.....	2.79	.....	8.61	4.64	12.14	93.44	71.75	55.67	42.12	76.57	383.93
Prospect Street,	.....	3.19	.....	33.44	91.07	.....	.....	.....	115.62	92.17	85.40	198.98	616.68
Spruce Street,	.....	3.19	.....	.....	.....	.....	.....	.....	4.27	4.10	30.15	45.94	87.65
State Street,	1044.29	663.53	3006.65	41.78	1108.63	2771.30	5.96	74.78	.....	.....	.....	.....	8716.92
Talcott Street,	.....	.....	.....	.....	.....	12.25	.....	.....	.....	.....	.....	21.78	34.03
Temple Street,	.....	.....	.....	2.90	.....	.....	.....	.....	.....	7.90	.....	.....	10.80
Trinity Street,	.....	.....	125.97	305.71	69.27	766.23	387.14	.....	1564.86	267.87	190.82	479.32	4362.84
Trumbull Street,	.....	.....	36.42	118.56	43.51	106.55	391.07	130.72	219.91	214.58	114.34	496.46	1872.12
Union Place,	.....	.....	.....	.....	.....	131.91	.....	35.16	.....	6.66	.....	16.35	190.08
Village Street,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.83	59.40	67.23
Windsor Street,	.....	.....	.....	11.59	.....	.....	.....	35.15	.....	.....	15.54	351.90	414.18
Windsor Avenue,	7.89	21.96	44.84	134.77	94.74	518.42	764.31	563.29	1145.77	685.33	1115.76	1222.31	6319.39
Totals,	$3136.32	$1481.82	$6629.12	$6683.45	$5847.48	$13141.84	$12265.88	$13883.70	$13264.07	$10104.71	$9052.50	$8324.38	$103805.27

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TABLE SHOWING THE COST PER YARD FOR REPAIRS TO SHEET ASPHALT PAVEMENT FOR EACH YEAR AFTER EXPIRATION OF GUARANTEE TO JANUARY 1, 1913

Street	Completed	Years guaranteed	6th year	7th year	8th year	9th year	10th year	11th year	12th year	13th year	14th year	15th year	16th year	17th year
Albany Avenue,	1900	5	$.0038	$.0438	$.0422	.....	.....	.....	Partly resurfaced 1909			.....	.....	.....
Allyn Street,	1899	5	.0029	.0207	.0181	$.0271	$.0747	$.0239	$.0583	$.0762	.....	.....	.....	.....
Ann Street,	1898	5	.....	.....	.....	.....	.0055	.....	.0048	None	$.0069	.....	.....	.....
Asylum Street,	1908	10	Guarantee expires 1918											
Atheneum Street,	1896	5	.....	....	.....	.....	.....	.....	.0205	.0277	.0106	$.1580	$.2663	.....
Capitol Avenue,	1900	5	.0338	.1165	.0910	.0940	.1207	.....	All resurfaced					
Church Street,	1897	5	.1211	.0292	.0651	.1206	.2325	.0997	Resurfaced 1909					
Farmington Ave.,	1899	5	.0410	.0899	.1309	.0424	.1449	.1016	.1553	Pavement extended 1910 and 1911				
Ford Street,	1908	10	Guarantee expires 1918											
Gold Street,	1898	5	.....	.....	.....	.....	.....	.....	. ....	.0181	.0161	.....	.....	.....
Grove Street,	1898	5	.....	.....	.....	.....	.0430	.0615	.0639	.0256	Pavement extended 1912			
High Street,	1899	5	.0045	.0660	.0813	.0487	.1748	.0915	Partly resurfaced 1911					
Hopkins Street,	1899	5	.....	.0691	.0889	.2451	.1246	.2214	.1667	.1251	.....	.....	.....	.....
Kinsley Street,	1898	5	.....	.....	.....	.....	.....	.0912	None	.0130	.....	.....	.....	.....
Lewis Street,	1900	5	.....	.....	.....	.....	.....	.0081	.0228	.....	.....	.....	.....	.....
Main Street,	1896	5	.0026	.0521	.0192	.0429	.0672	.0652	.1157	.0740	.0503	Partly resurfaced 1910		
Market Street,	1898	5	.0691	.0177	.0153	.1577	.0550	.0490	.0441	.....	Partly resurfaced 1909			
Mulberry Street,	1898	5	.....	.0217	.....	.0198	.0393	.0198	None	.0230	.0302	.....	.....	.....
Pearl Street,	1903	10	Guarantee expires 1913											
Pleasant Street,	1898	5	.0098	.....	.....	.....	.....	.....	.0537	.0102	None	.....	.....	....
Pratt Street,	1899	5	.0060	.0032	.0084	.0650	.0499	.0387	.0292	.0532	.....	.....	.....	.....
Prospect Street,	1898	5	.0186	.0505	.....	.....	.....	.0641	.0511	.0473	Partly resurfaced 1912			
Spruce Street,	1900	5	.....	.....	.....	.0019	.0018	.0131	.0201	.....	.....	.....	.....	.....
Talcott Street,	1898	5	.....	.....	.0360	.....	.....	.....	.....	None	.0481	.....	.....	.....
Temple Street,	1898	5	.0027	.....	.....	.....	.....	.....	.0075	None	None	.....	.....	.....
Trinity Street,	1897	5	.0181	.0440	.0100	.1103	.0557	.....	.0385	.0275	Partly resurfaced 1908			
Trumbull Street,	1898	5	.0222	.0081	.0199	.0732	.0245	.0412	.0402	.0214	.0929	.....	.....	.....
Village Street,	1899	5	.....	.....	.....	.....	.....	.....	.0061	.0308	.....	.....	.....	.....
Windsor Avenue,	1899	5	.0048	.0262	.0386	.0285	.0579	.0346	.0563	.0617	.....	.....	.....	.....
Windsor Street,	1898	5	.0050	.....	.....	.....	.0151	.....	.....	.0067	.1019	.....	.....	.....

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REPORT

OF THE

Board of Street Commissioners

FOR THE

Year Ending March 31, 1913

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STREET DEPARTMENT—1912-1913

BOARD OF STREET COMMISSIONERS

JOSEPH BUTHS,	FRED P. HOLT,
HENRY S. ATWOOD,	RALPH O. WELLS,
WILLIAM F. O'NEIL,	WARREN T. BARTLETT,

JOSEPH BUTHS, President.

WILLIAM F. O'NEIL, Vice President.

CHARLES J. BENNETT, Supt. of Streets.

WILLIAM J. SHEEDY, Asst. Supt. of Streets

RAYMOND L. SLOCUM, Clerk of Board.

ROSCOE N. CLARK, City Engineer.

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REPORT

To the Honorable Court of Common Council:

In compliance with the Charter, the Board of Street Commissioners herewith reports to your Honorable Court the receipts of all moneys and from what sources, and all expenditures and for what purposes, which have been received and expended by said Board during the year ending March 31st, 1913, as follows, to wit:

The appropriations and actual expenditures were as follows:

FOR WHAT PURPOSES	APPROPRIATIONS	EXPENDED	BALANCE UNEXPENDED
Grading and Turnpiking	$20,500 00	$20,493 28	$6 72
Macadamizing	45,500 00	44,119 56	1,380 44
Resurfacing and Repairs	48,562 50	46,903 24	1,659 26
Improved Paving and Repairs	67,562 46	58,343 50	9,218 96
Automobiles	2,250 00	2,226 25	23 75
Ashes and Garbage	35,737 54	35,370 54	367 00
Bridges	6,600 00	5,940 56	659 44
Cross & Sidewalks, curbs, etc.	9,000 00	7,975 38	1,024 62
Culverts and Inlets	14,000 00	13,991 19	8 81
Forestry	6,000 00	5,381 23	618 77
Incidentals	4,000 00	3,985 83	14 17
Office Expenses	4,400 00	4,398 74	1 26
Salaries	13,787 50	13,641 59	145 91
Sewer Repairs	27,000 00	26,139 90	860 10
Steam Roller Repairs	2,000 00	1,625 56	374 44
Storehouse and Yard	3,100 00	3,094 17	5 83
Street Cleaning, total	66,023 33	66,015 48	7 85
Street Sprinkling	35,000 00	34,818 66	181 34
Street Lighting	67,000 00	64,529 10	2,470 90
Essex Sreet Damages	3,500 00	3,450 00	50 00
Cleaning Park River and rebuilding dam	5,000 00	3,423 80	1,576 20
Total amounts	$486,523 33	$465,867 56	$20,655 77

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EXPENDITURES.

MONTH OF	PAYROLLS	BILLS PAID BY TREASURER	TOTAL
April, 1912	$10,790 01	$12,323 32	$23,113 33
May, "	16,873 43	15,613 98	32,487 41
June, "	21,007 26	26,727 57	47,734 83
July, "	20,728 51	37,173 21	57,901 72
Aug., "	21,297 02	32,545 62	53,842 64
Sept., "	17,494 85	29,934 92	47,429 77
Oct., "	18,665 92	26,046 86	44,712 78
Nov., "	15,351 50	28,396 14	43,747 64
Dec., "	10,153 44	40,381 06	50,534 50
Jan., 1913	8,058 21	15,874 94	23,933 15
Feb., "	6,664 05	13,020 72	19,684 77
Mar., "	7,042 11	13,702 91	20,745 02
	$174,126 31	$291,741 25	$465,867 56

RECEIPTS.

Amounts received by City Treasurer which can properly be credited to the Street Department:		
Front, Grove and Sheldon St. from property owners for paving.....	$8,834 70	
Rebuilding sewers in Front, Kilbourn, Pleasant, Temple and Windsor St.,..	4,091 21	
Street Sprinkling assessment	29,961 00	
Street Cleaning from Connecticut Co....	7,752 84	
Sundry collections	2,792 90	$53,432 65
Net cost of operation of Street Department for the season 1912-1913.....		$412,434 91

Said Board submits the following itemized statement for the purpose of comparison, and to show where money has been expended during the past year.

The gross sum expended in 1912-1913 was $465,867.56.

	1911-12	1912-13
Grading and Turnpiking	$21,324 08	$20,493 28
Macadamizing	47,793 63	44,119 56
Resurfacing and Repairs	47,585 45	46,903 24
Improved paving and repairs	52,999 45	58,343 50

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Automobiles	2,426 20	2,226 25
Ashes and garbage	34,471 76	35,370 54
Bridge repairs	8,725 80	5,940 56
Cross and sidewalks, curbs, etc.,	10,771 35	7,975 38
Culverts and inlets	14,140 88	13,991 19
Forestry	5,462 45	5,381 23
Incidentals	2,471 21	3,985 83
Office expenses	2,997 70	4,398 74
Salaries	12,880 73	13,641 59
Sewer repairs	6,940 88	26,139 90
Steam Roller Repairs	1,905 52	1,625 56
Storehouse and yard	3,128 31	3,094 17
Street Cleaning	61,969 18	66,015 48
Street Sprinkling	34,611 58	34,818 66
Street Lighting	64,577 03	64,529 10
Ward Place (sewer outlet)	930 40	.....
Essex Street Damages	.....	3,450 00
Cleaning Park River and rebuilding dam	.....	3,423 80
	$438,113 59	$465,867 56

REMOVAL OF GARBAGE AND ASHES

Garbage and ashes are removed at present by a contractor, under a five years' contract, said contract expires June 1st, 1913. Complaints about careless and insufficient service have been many, but brought down to an average during a day have not been greater than seven. This compares favorably with other cities. These complaints in the past received quick attention by the city inspector . The fault, however, was not always with the contractor. The general feeling of the public is that better service would be had if the city, through this department, did the work and the Board of Street Commissioners have decided to do so during the coming year. As far as the removal of garbage is concerned, we will act jointly with the Board of Health. The annual cost in the past was $35,000. This amount is considered very low and people acquainted with the work say that it cannot be done even for the amount appropriated. We have asked for an appropriation of $57,500, for this work for the ensuing year, $7,500 of which will be used for the equipment, leaving $50,000 for actual work. The Superintendent is preparing a system, and

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a year will be necessary to try it out. The intent is to have some of the garbage removed to farms outside of Hartford, but the collections are to be made entirely by city employees and no garbage is to be shifted in the city from one wagon to another. If this arrangement does not work satisfactorily, then the garbage will have to be buried in an outlying section of the city and the expense thereby materially increased. Eventually the city will have to acquire a reduction plant, but on account of the increased expense this must be deferred. As far as the general collection is concerned we desire to say that a perfect service is impossible but we can promise full attention to the complaints as they are made. Co-operation on the part of the individual citizen is necessary for the success of the undertaking.

CEMETERY STREET EXTENSION.

Cemetery Street was laid out from Mahl Avenue to Spring Grove Cemetery in June 26, 1905. It was opened to accomodate foot passengers going to and from the cemetery and streets beyond on the north. Finally the gates of the Spring Grove Cemetery were closed by the authorities of the cemetry. In the meantime a former owner built a greenhouse in the street, and efforts were made from time to time to get the encroachments removed but without success. Meanwhile the property was sold. The Board again gave orders to remove the encroachments and in case of failure ordered the Superintendent of Streets to move same; thereupon the owner secured an injunction from the court preventing the removal and a suit followed. The case was finally taken up. On the day set for the trial, the owner withdrew the case and petitioned the Court of Common Council again to discontinue the street, this was refused. An order was again passed to remove the encroachments. The owner appeared and requested an extension of time, stating that a question of title as to the adjoining land was under consideration and promised that the encroachments would be removed by August 1st, 1913. This was granted. Residents on the north of Spring Grove Cemetery are desirous of an outlet into Cemetery Street by the way of Spring Grove Cemetery. They had that privilege for many years

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but it was withdrawn. We have requested the Association to again open the exits. Some day a street should be laid in line with the existing Cemetery Street Extension for the convenience of the public, the present streets on the east and west, furnishing an outlet to the city being 2100 feet apart.

DEVELOPMENT OF THE CITY IN THE NORTHERN SECTION.

There is a clause in the city charter which prevents making any improvements in that part of the city lying north of the City Line established in 1859, except by petition of 25 property owners residing therein. This requirement has been somewhat of a hindrance in the free development of that section. Many streets have been improved and houses built in spite of it, and so called farmlands are rapidly turned into streets and building lots. We have suggested the removal of that clause from the charter by legislative action.

BUILDING AND VERANDA LINES.

New Building and Veranda lines have been established on sixteen streets and changes made therein on twenty-two streets. On new streets these lines are a part of the layout. There are many older streets where some of the lines are absent, especially veranda lines, and a number of such imperfect layouts are considered and established from time to time. There is no way of defining the lines of ornamentations of buildings which has been annoying to the Board and has given rise to unjust criticism for the reason that some structures are over the building line and often over the street line, far more, it seems, than is necessary to preserve the harmony of the adjoining structures. All those projections are in fact encroachments, but to remove them would be a calamity, considered from the point of beauty and proportion. We have asked for an amendment to the charter giving the city power to make ordinances covering this matter.

IMPROVED PAVEMENTS.

There were laid during the past year 9,675 square yards of improved pavement. It is contemplated to lay during the ensuing year 11,130 square yards on Front Street from State Street

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to Morgan Street; on Morgan Street from Front Street to Market Street; on Market Street from Morgan to Pleasant Street; on Pleasant Street from Market to Windsor Street; on Marsh Court and on Spruce Street extension. The two last streets are to be paved by virtue of petitions, the other streets were selected by the Board of Street Commissioners under the charter, giving the Court of Common Council the right to select 1-2 mile of streets to be paved with improved pavement without petition from the property owners.. The city at the present time has ten and one-half miles of improved pavements, the balance of the streets has macadam and some streets are unimproved. Experience has taught that simple macadam on much travelled streets does not give satisfaction and that the upkeep of such is expensive. We believe that more improved pavements should be laid and that the charter should be amended giving the city the right to lay two miles of such pavements instead of one-half mile as at present permitted. We have therefore asked for such an amendment. Asphalt pavement has been the favored pavement, but the Board believes and the Engineers are unanimous in the selection of a block pavement with a veneer cover of cement on such streets where heavy travel exists. This is especially desirable on streets with car tracks.

GENERAL IMPROVEMENTS.

It has been the practice in the past to make the layouts of public improvements, assess betterments and award damages. Whenever parties in interest felt aggrieved and appealed from the assessment, the improvement, no matter how necessary, was stopped; the final decision of the courts requiring as long a time as three years. To be enabled to carry out the improvement at once we have asked for an amendment to the charter. The right to proceed with the work is especially necessary where sewers are to be provided.

REPAIRS OF SIDEWALKS AND CURBS.

Sidewalks and curbs are constantly disturbed either by settling or the heaving caused by the action of frost. Notices are

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sent out to property owners to make repairs. Many such notices are not given attention and a second notice has to be sent. If this second notice is of no effect then the city does the work and often has to file a lien on the property. All this is annoying and not conducive to good government. The repairs of sidewalks and curbs should be made by the Street Department. We have hesitated to urge an amendment to the charter whereby the city make these repairs for the reason that an annual appropriation would have to be made of about $25,000.00 thereby increasing the appropriation to the Street Department annually of this amount. We have come to the conclusion that this is the proper course to take and we have therefore suggested an amendment to the charter.

WIRES UNDERGROUND.

In accordance with the ordinance we have selected two miles of streets wherein the several corporations having wires overhead and where they are required to place them underground. The necessary hearings were held and wires ordered underground during 1913 as follows:

By the Southern New England Telephone Company—		
Pleasant Street—Village St. to Railroad	540	feet
Front Street—State to Morgan St.	1400	"
Prospect Avenue—Fern St. to Asylum Ave.	2400	"
Capitol Ave. Ext.—Prospect Ave. to Smith St.	1340	"
Park Street—Prospect Ave. to Amity St.	1330	"
Fern Street—Prospect Ave. to Beacon St.	380	"
Fern Street—Whitney St. to Girard Ave.	810	"
Kenyon Street—	290	"
	8490	"
By the Hartford Electric Light Comapny—		
Asylum Avenue—Spruce to Woodland Streets	4250	feet
Sigourney St.—Asylum Ave. to Farmington Ave.	860	"
Niles Street—Sigourney to Woodland Streets	2140	"
Laurel Street—Niles St. to Farmington Ave.	780	"
Marshall Street—Niles St. to Farmington Ave.	850	"
Gillett Street—Asylum to Farmington Avenues	990	"
Farmington Avenue—	3300	"
Market Street—	2225	"
	15395	"

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By the Farmington River Power Company—

Albany Avenue—Tunnel to Brook Street	2200	feet
Brook Street—Albany Ave. to Mather St.	895	"
Mather Street—Brook St. to Garden St.	505	"
Garden Street—Mather St. to Westland St. (approx.) ...	3000	"
	6600	"

IMPROVEMENT OF PARK RIVER, ADJOINING CITY PROPERTY.

The condition of Park River during the year has been much improved. $5,000 for the cleaning etc., was appropriated but only $3,423 thereof was used. The remaining balance was intended to be used for building new abutments for the Trumbull Street bridge, which bridge was to be located at right angles to the street. Before the necessary surveys and final arrangements could be made the weather prevented the work. Considerable progress in the improvement however was made. The greater part of the banks of the river were widened and rip-rapped; the dam at former Daniels' Mill was removed on the Wells Street side and the sluice-ways closed up. The old buildings on the Elm Street side were leveled to the ground and the openings of former cellars filled in. The improvements of the river will continue during the coming year as an appropriation of $5,000 has been made.

ORNAMENTAL STREET LIGHTING.

A petition of the Hartford Business Men's Association for improved lighting of certain streets in the business section of the City was considered by a special committee of your Honorable Board Jointly with the Board of Street Commissioners. While the Board of Street Commissioners was of the opinion that a part of the cost of such lighting should be borne by those especially benefitted, the Court of Common Council decided otherwise. The cost per annum for such lighting was estimated at $17,000 including the necessary posts which were to be furnished by the contracting lighting company. We consulted Dr. Louis Bell an expert on lighting who has given valuable advice in the past. He is of the opinion that the City should purchase and maintain the

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poles. The design of an artistic pole was furnished by Mr. Chester B. Price of New York through the efforts of our Municipal Art Society and approved by the expert. The purchase of these poles, 270 in number, to be paid for on delivery will necessitate a larger appropriation which has been considered in part by the Board of Finance. In extending the time of installation to September, we will be able to pay for the posts and a lower price for lighting can be looked for.

JOSEPH BUTHS,
WILLIAM F. O'NEIL,
FRED P. HOLT,
RALPH O. WELLS,
WARREN T. BARTLETT,
HENRY S. ATWOOD.
..Board of Street Commissioners.

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APPENDIX—1912-1913

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GENERAL ACCOUNTS

1. Grading and Turnpiking.

For grading streets	$18,294.51	
tools and supplies	127.95	
turnpiking streets	2,070.82	
		$20.493.28

2. Macadamizing.

For macadamizing streets and general work	$39,742 57	
wages of foreman and assistant	1,641.00	
wages of inspector at quarry	573.00	
104 25-32 cords of wood for steam rollers	479.31	
water used	200.00	
One Austin Grader	250 00	
Hospital expenses, John Grady	59.75	
Expenses, Supt. to Bridgeport, Boston and New York	100.55	
freight, demurrage and carfares	234.05	
tools, supplies and repairs	839.33	
		$44 119 56

3. Resurfacing and Repairs.

For resurfacing and repairing streets	$34,497.57	
labor patching four districts	11,034.75	
freight, demurrage, etc.	394.46	
tools, supplies and repairs	976.46	
		$46,903.24

4. Improved Paving and Repairs.

For new pavement,		
Front St., Sheldon to State St.	$12,386.11	
Grove St., Prospect to Front St.	3,292.66	
Sheldon St., Union to Commerce St.	3.364.65	
State St., Front St. to Boulevard	4,037.62	
resurfacing Main Street	26,000.00	
general repairs	9,262.46	
		$58,343.50

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5. Ashes and Garbage.

For removing ashes and rubbish	21,123.96	
removing garbage	11,540.00	
salaries of inspectors	1,866.66	
wages of man at dump	622.00	
one ash wagon	170.00	
miscellaneous expenses	47.92	
		$35,370.54

6. Automobiles.

For one Ford runabout	$615.00		
credit by Hupmobile	290.00		
		$325.00	
one Ford Touring Car	715.00		
credit by Pope Hartford	450.00		
		$265.00	
one Ford Touring Car	$625.00		
credit by Ford touring car	375.00		
		$250.00	
tires and repairs to tires		510.91	
repairs and supplies		213.17	
insurance		188.86	
gasoline and oil		473.31	
			$2,226.25

7. Bridges.

For repairing Boulevard bridge	$428.69	
Capitol Avenue	18.55	
Commerce Street	1,390.84	
Edwards Street	354.60	
Ford Street	2,552.65	
Flatbush Avenue	5.40	
Front Street	658.55	
Laurel Street	11.04	
Riverside Street (grading approaches)	513.75	
supplies	6.49	
		$5,940.56

8. Cross and Sidewalks.

For laying 40 new granite crosswalks	$2,434.63
laying 13 concrete crosswalks	246.96
cutting back curb corners, Main Street	964.67
cutting back curb corners, Farmington and Sisson Avenues	131.22

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new concrete walk, Wethersfield Ave. at City property, west side	502.50	
miscellaneous	66.83	
repairing 115 crosswalks	1,584.16	
repairing sidewalk and curb, eight streets	143.21	
wages of inspectors	1,509.00	
salary of clerk	150.00	
cartage, etc.	24.47	
cutting back curb, corner Park St. and Francis Avenue	217.73	
		$7,975.38

9. Culverts and Inlets.

For 130 new catch basins constructed	5,939.71	
58 simplex catch basins, complete	861.60	
brick, sand, title, etc.	409.64	
For repairing culvert Franklin Ave. at Folly Brook	62.95	
repairing culvert Franklin Ave. at Roosevelt St.	32.43	
repairing 157 catch basins	1,606.56	
labor cleaning catch basins	4,818.15	
tools, tile, cement and sand	260.15	
		$13,991.19

10. Forestry.

For labor pruning, setting and removing trees, etc.,	$2,570.65	
labor spraying trees	1,122.03	
arsenate of lead	292.12	
1000 Norway maples, purchased for planting	124.00	
tools and supplies	272.43	
salary of foreman	1,000.00	
		$5,381.23

11. Incidentals.

For tools and supplies	1,291.32	
street signs and posts	1,113.11	
dyke sewer pump, labor and supplies	301.40	
part maintenance of pumping plant to Colts Patent Fire Arms Company	150.00	
test pits	172.00	
estimate damages, State St., etc.	920.00	

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rent of storage lots	35.00	
miscellaneous	3.00	
		$3,985.83

12. Office Expenses.

For clerk hire and stenographers	$2,730.00	
printing, stationery and supplies	1,006.89	
rent of telephones	112.83	
printing of annual report	137.00	
postage, telegrams, etc.	203.70	
new furniture and repairs	106.62	
new typewriter and repairing typewriters	88.50	
insurance	13.20	
		$4,398.74

13. Salaries.

For salaries of board	$2,000.00	
salary of supt. of streets	3,354.09	
salary of asst. supt. of streets	2,087.50	
salary of clerk of board	1,800.00	
salary of four district foremen	4,400.00	
		$13,641.59

14. Sewer Repairs.

For labor and material repairing 76 sewers	$2,000.99	
labor cleaning sewers	1,149.35	
rebuilding sewer, Windsor St. Avon to Pleasant St.	2,898.24	
rebuilding sewer Pleasant St. & Windsor St.	3,834.01	
rebuilding sewer, Kilbourn, Front & Temple Sts.	5,202.07	
rebuilding sewer, Front St., from Talcott to Temple St.	1,157.18	
rebuilding sewer Temple St. from Market St. westerly	702.34	
rebuilding Park River Interceptor	6,140.93	
wages of sewer inspectors	848.25	
wages of chauffeur	599.00	
tools, supplies, manhole covers, cement, etc.	1,607.54	
		$26,139.90

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15. Steam Roller Repairs.

For labor and material repairing Roller No. 1	58.08	
labor and material repairing Roller No. 2	173.88	
labor and material repairing Roller No. 3	134.75	
labor and material repairing Roller No. 4	75.70	
labor and material repairing Roller No. 5	55.27	
labor and material repairing Roller No. 6	231.42	
one set rear rolls for roller No. 6..	499.00	
repairing scarifier	41.63	
tools, stock, supplies and repairs	355.83	
		$1,625.56

16. Storehouse, Shop and Yard.

For salaries of storekeeper, night watchman and machinist	$2,567.43	
labor painting and repairing building	54.97	
rent of telephone	30.25	
insurance	162.00	
coal and wood	104.11	
water used	19.92	
electric light and power	87.15	
tools, oil and supplies	68.34	
		$3,094.17

17. Street Cleaning.

Paved Streets.

For cost of cleaning	$30,185.31
removing snow	2,987.47
salary of foreman	1,275.00
salary of night foreman	1,168.00
repairs and supplies for three flushing carts	222.23
repairs and supplies for two squeegee machines	182.59
repairing city carts	764.90
repairing walkaways	18.00
repairing hand sweepers	131.23
repairing and making new scrapers ..	84.03
476 push brooms	250.38
one second hand cart	50.00
sand and labor drying same	386.81
tools, supplies and repairs.....	331.00
expense of clean up week	1,031.41
	$39,068.36

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MACADAM STREETS.

For Street Cleaning, District No. 1.....	$8,185.53	
removing snow District No. 1.....	203.00	
street cleaning, District No. 2.....	5,614.98	
removing snow District No. 2.....	235.88	
street cleaning District No. 3.....	5,418.17	
removing snow District No. 3.....	235.00	
street cleaning District No. 4.....	6,818.93	
removing snow District No. 4.....	235.63	
	$26,947.12	$66,015.48

18. STREET SPRINKLING.

For labor sprinkling with water	$9,611.14	
water used	2,600.20	
labor sprinkling with road oil	2,077.44	
340,591 gallons road oil used	16,212.94	
amount set aside for freight bills	300.00	
freight, demurrage, etc.	399.40	
two oil tanks	530.00	
two pressure oil wagons	1,045.00	
tools, repairs and supplies	956.54	
salary of inspectors	1,086.00	
		$34,818.66

19. STREET LIGHTING.

For street lighting throughout the city...	$64,127.34	
salary of inspector	375.00	
miscellaneous expenses	26.76	
		$64,529.10

20. ESSEX STREET DAMAGES.

For damages paid to Hartford Retreat for land taken by layout of Essex St. (See Council resolution of December 26th, 1911)	$3,450.00	
		$3,450.00

21. CLEANING PARK RIVER AND REBUILDING DAM.

For labor cleaning river and removing dam at Daniel's Mill	$2,222.99	
1209.50 tons rubbish stone used	1,028.08	
tools and supplies	172.73	
		$3,423.80
		$465,867.56

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Appropriation,	Making the general and specific appropriation $495,000	Ordered filed.
Appropriation,	Making an extra appropriation of $523.33 for additional expense caused by the general cleaning up of back yards	Ordered filed.
Appropriation,	Making an appropriation of $400.00 for the purpose of installing drinking fountains for pedestrians	Ordered filed.
Affleck Street,	To establish and maintain three tungsten lights on same at the corner of Lincoln, Madison and Jefferson Streets	Established.
Albany Avenue,	To establish and maintain one arc light on the north side of same midway between Williams and Brook Streets	Established.
Arch Street,	To establish and maintain one arc light on the north side of same midway between Main and Prospect Streets	Established.
Armory Grounds,	To consider the matter of laying out a new street through the same from Asylum Street to Broad Street or into Oak Street by a bridge across Park River	Matter under consideration.
Bartholomew Ave.,	To lay a crosswalk on same opposite the factory entrance of the Hartford Rubber Works	Order executed.
Bedford Street,	Changing name of street called Marlborough as laid out and accepted by Court of Common Council, March 12th, 1906, to Bedford Street	Ordered filed.

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CONCURRENT RESOLUTIONS—Continued.

Broadview Terrace,	To construct a sewer in same and across private lands to Green Avenue to New Britain Avenue	Order executed.
Blue Hills Avenue,	To establish one tungsten light on the west side of same at the City Line	Established.
Bloomfield Avenue,	To establish and maintain one Tungsten light on same at the City Line	Established.
Bradford Street,	Changing name of Earle Street to Bradford Street	Ordered filed.
Broad Street,	To cause to be laid a crosswalk on same between Park and Ward Streets	Order executed.
Broad Street,	That all proceedings in the laying out of new street line at the northeast corner of New Britain Avenue and same are indefinitely postponed.	Ordered filed.
Cabot Street,	To establish and maintain four tungsten lights on same between Albany Avenue and Homestead Avenue	Established.
Capitol Ave. Ext.,	To consider in the budget for 1913 the petition of Elmer Pulver ..*et al.*, for the macadamizing of same from Heath St. to Prospect Avenue	To be executed in 1913.
Capen Street,	To establish and maintain two tungsten lights on the south side of same	Established.

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CONCURRENT RESOLUTIONS—Continued.

Case Street,	To establish and maintain one tungsten light on same midway between Marshall and Laurel Streets	Established.
Cemetery Street,	Giving J Albert Brodrib *et al.*, leave to withdraw their petition for the discontinuance of the north part of same	Ordered filed.
Church Street,	To pave same for a distance of 55 feet from the west line of Spruce Street	Ordered filed.
Commerce Street,	Giving the Hartford City Gas Light Co. leave to withdraw their petition for an extension of side track across same and Ellery Street	Ordered filed.
Connecticut Co.,	Giving said Company permission to build a double track electric railway on Wethersfield Avenue from Eaton Street southerly to City Line	Order executed.
Connecticut Co.,	Giving said Company permission to construct and operate a double track electric railway on Park Street from Bartholomew Avenue westerly to Sisson Avenue	Order executed.
Connecticut Co.,	Granting permit to said Company to relocate its present double track railway on Park Street from a point about 300 feet easterly of Laurel Street westerly to Bartholomew Avenue	Order executed.
Connecticut Co.,	Granting permit to said Company to relocate its present double track on Laurel Street from Park Street to the Park River Bridge	Order executed.

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CONCURRENT RESOLUTIONS—Continued.

Connecticut Co.,	Giving said Company leave to withdraw their petition for the double tracking of Park Street between Broad and Zion St.	Ordered filed.
Connecticut Co.,	Requesting said Company to remove tracks temporarily in Bloomfield Avenue from Albany Avenue to the City Line in order to build sewer in center of street, but if the Connecticut Company will agree in writing to pay the additional cost of constructing laterals, the City of Hartford will accept such payment in lieu of the removal of tracks and will order sewer laid on a side location	Additional cost to be paid for by Connecticut Company when sewer is completed.
Connecticut Co.,	Giving said Company permission to construct and operate a single track electric railway in Huyshope Avenue	Order executed.
Daniel's Mill Bldg.,	To dispose of same, the revenue if any resulting from said disposal of said building to be paid to the City Treasurer	Order executed.
East Raymond St.,	Changing name of street now called Raymond Street Extension, laid out from Vine Street easterly to Middlefield Street to East Raymond Street	Ordered filed.
Enfield Street,	To establish and maintain one tungsten light on the west side of same about 310 feet north of Mather Street	Established.
Enfield Street,	Giving Leroy Pond *et al.*, leave to withdraw their petition for the macadamizing of same	Ordered filed.
Essex Street,	To establish two tungsten lights on the east side of same	Established.

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CONCURRENT RESOLUTIONS—Continued.

Edgewood Street,	Changing name of street now called Woodruff Street, laid out from Vine Street to Garden Street to Edgewood Street	Ordered filed.
Front Street,	Approving of the action of Board that Front Street from State Street to Morgan Street be paved with sheet asphalt during the season of 1913	Ordered filed.
Grade Crossings,	Instructing the Corporation Counsel to bring the petition of the city in writing to the Public Utilities Commission for alteration in the existing crossings of Flower, Sigourney and Laurel Streets with changes in other crossings if any made necessary in consequence thereof	Matter under consideration.
Garden Street,	To establish and maintain one arc light at the northeast corner of Asylum Street and same	Established.
Gully Brook,	Rejecting resolution in *re* layout of a conduit to enclose same as presented Feb. 13, 1913	Ordered filed.
Harold Street,	To establish and maintain one tungsten light at the corner of Palm Street and same	Established.
Hawthorn Street,	To establish and maintain one tungsten light at the west end of same	Established.
Hillside Avenue,	To postpone indefinitely the matter of change of building line on same north of Hamilton Street	Ordered filed.

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CONCURRENT RESOLUTIONS—Continued.

Homestead Avenue,	Directing the Mayor to insert in the warning of the next annual city meeting a clause providing for a vote on question of approving the appropriation of the sum of $17,000 to be applied towards the cost of constructing an extension of the Homestead Avenue sewer from Albany Avenue northerly	Appropriation made.
Huntington Street,	To establish one tungsten light on the west side of same at a point midway between Collins and Ashley Streets.....	Established.
Jefferson Street,	To establish and maintain one tungsten light on same midway between Broad and Affleck Streets	Established.
Kent Street,	To estbalish and maintain three tungsten lights on same between Albany Avenue and Norfolk Street	Established.
Lafayette Park ,	To establish and maintain one tungsten light at the south end of same between Lafayette and Washington Streets	Established.
Madison Street,	To establish and maintain one tungsten light on same midway between Broad Street and Affleck Street	Established.
Main Street,	To establish one arc light at the east end of same about 100 feet south of Grove Street	Established.
Main Street,	To remove arc light at the southwest corner of same and Trumbull Street and relocate the same at a point on Main Street opposite Trumbull Street	Order executed.

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CONCURRENT RESOLUTIONS—Continued.

Maple Avenue,	Requesting Board to return before further action to the Court of Common Council the petition for sewer in same	Order executed.
Maple Avenue,	That all the papers relative to the Maple Avenue sewer system now in the hands of the City Clerk be referred to Board with instructions to proceed with the assessment	Assessment made and published.
Maple Avenue,	That the City will assume the expense of the construction of the proposed Maple Avenue sewer system to the extent of $35,000 and requesting the Mayor to insert in the call for the next annual City meeting the vote making said appropriation for such action as the citizens may deem best	Appropriation made.
Maple Avenue,	Giving Frank H. Jordan *et al.*, leave to withdraw their petition for change of building and veranda lines on the east side of same from Adelaide Street north 250 feet	Ordered filed.
Marsh Court,	Approving of the action of board that Marsh Court be paved with sheet asphalt during the season of 1913	Ordered filed.
Monroe Street,	That the petition of L. W. Seymour *et al.*, for the layout and acceptance of same from New Britain Avenue southerly be referred to Commission on City Plan	Order executed.
Morgan Street,	Approving of the action of board that Morgan Street from Front Street to Market Street be paved with sheet asphalt during the season of 1913	Ordered filed.

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CONCURRENT RESOLUTIONS—Continued.

Mountford Street,	To consider the advisability of macadamizing same from Broad Street to Maple Avenue during the season of 1913	To be executed in 1913.
Newbury Street,	To establish and maintain two tungsten lights on same	Established.
Newton Street,	To consider the petition of J. G. D. Newton for the macadamizing of same for a distance of 200 feet south of Capitol Avenue Extension	To be executed in 1913.
Ordinance (Traffic)	To adopt an ordinance amending an ordinance regulating street traffic	Ordered filed.
Ordinance, (State St. traffic)	To repeal an ordinance establishing one way traffic on State Street	Ordered filed.
Park Street,	To establish new curb line on same from John Street westerly	Established.
Pavement, (City Charter)	To consider an amendment to the City Charter which will permit the Board of Street Commissioners to lay at least two miles of improved pavement during any one fiscal year without petition from abutting property owners	Order executed.
Pleasant Street	Approving of the action of Board that Pleasant Street from Windsor Street to the east end of Pleasant Street be paved with sheet asphalt during the season of 1913	Ordered filed.
Prospect Avenue,	To relocate three tungsten lights on same, north of Farmington Avenue	Order executed.

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CONCURRENT RESOLUTIONS—Continued.

Raymond Street,	To establish and maintain two tungsten lights on north side of same, east of Vine Street	Established.
Road Oil,	To purchase road oil in the open market without advertisement in tank car lots as required for the use of the department	Ordered filed.
Russ Street,	To consider and report on the matter of extending Russ Street through Washington Park to Washington Steet	Matter under consideration.
Sanford Street,	To grade and macadamize same during season of 1913	To be embodied in budget of 1914.
Sheldon Street,	Rejecting resolution in *re* establishment of new street and building lines on the north side of same from a point 440 feet easterly from Front Street to Commerce Street as presented June 24, 1912	Ordered filed.
Sisson Avenue,	To establish and maintain one tungsten light on the west side of same midway between Fales Street and Gray Street	Established.
So Marshall Street,	To establish and maintain one tungsten light on the east side of same midway between Farmington Avenue and Case Street	Established.
Spruce Street,	To pave a 30 foot roadway in same from the north line of Church Street to the end	Ordered filed.
Street Lighting,	To obtain a comprehensive and detailed plan for additional lighing and estimates of the initial and annual cost thereof	Order executed.

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CONCURRENT RESOLUTIONS—Continued.

Street Lighting,	To approve and adopt "Proposition I" for a new system of lighting the streets therein set forth	Ordered filed.
Street Sprinkling,	Accepting the assessment for street sprinkling submitted by board and that the same shall be due or payable on or before February 1st, 1913	Ordered filed.
Street Sprinkling,	Approving the list of streets to be sprinkled during the season of 1913	Ordered filed.
Summit Street,	To include in the budget for 1914-15 a sum sufficient to macadamize same from the end of present macadam to New Britain Ave.	To be embodied in budget of 1914.
Supt. of Streets, (Telephone)	To install a telephone in the residence of Superintendent of Streets	Order executed.
Thomaston Street,	That the petition of P .J. Thomas *et al.*, for the layout and acceptance of same from Blue Hills Avenue to Ridgefield Street be referred to board for descriptive layout	Order executed.
Tower Avenue,	Giving Francis Coles, *et al.*, leave to withdraw their petition for the grading and macadamizing of same	Ordered filed.
Vine Street,	To remove and relocate three tungsten lights on same between a point 200 feet north of Vineland Terrace and a point opposite Westland Street from the east to the west side of the street	Order executed.
Vernon Street,	That the Alpha Phi Chapter House by Theodore E. Case petitioners for catch basin at No. 94 are given leave to withdraw their petition	Ordered filed.

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CONCURRENT RESOLUTIONS—Continued.

Webster Street,	Giving E. R. Clark leave to withdraw his petition for change of building line at the south corner of same and Barnard Street ..	Ordered filed.
Wellington Street,	Giving Frank Niainski *et al.*, leave to withdraw their petitions for relief from set back of sewer in same	Ordered filed.
Wells Street,	To draw upon the City Treasurer for such sums as may be necessary to complete the purchase from Kinsella and Smith of a parcel of land on the south side of same	Land purchased
Wells Street,	To control and use for department purposes lot recently acquired by the City same being situated on the south side of said street	Ordered filed.
West Hartford Boulevard	Rejecting resolution in *re* layout and acceptance of same as presented Jan. 13, 1913	Ordered filed.
Westland Street,	To remove and relocate seven tungsten lights on same between Vine and Garden Streets from the north to the south side of said street	Order executed.
West Raymond St.,	To change name of street now called Raymond Street laid out from Vine Street westerly to Edgewood Street to West Raymond Street	Ordered filed.
Windsor Street,	To grade and macadamize same from the southern most crossing of the New York, New Haven and Hartford Railroad to Windsor Avenue	One-half to be executed in 1913, and balance to be included in budget for 1914.

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CONCURRENT RESOLUTIONS—Continued.

Woodland Street,	To macadamize same beween Albany Avenue and Greenfield Street during the season of 1914	To be embodied in budget for 1914.
Woodruff Street,	To establish and maintain one tungsten light on same between Vine Street and proposed Colchester Street	Established.
Wyllys Street,	To establish and maintain one tungsten light on same at a point midway between Main Street and Charter Oak Place	Established.

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STREET, BUILDING AND VERANDA LINES AND GRADE ESTABLISHED.

Albany Avenue,	North Side, Vine to Blue Hills Ave.	Building and Veranda lines.
Albany Avenue,	South Side, Garden to Woodland Street	Building and Veranda lines.
Arch Street,	From Main Street to Prospect Street	New grade.
Bonner Street,	South Side, Zion Street to Hillside	Building and Veranda lines.
Broad Street,	At southeast corner of New Britain	Street line.
Broad Street,	1200 feet south of New Britain Avenue to White Street	New grade.
Case Street,	Laurel Street to Marshall Street	New grade.
Center Street,	West Side, from a point 70 feet north of Albany Avenue to a point 100 feet south of Mather Street	Veranda line.
Cheshire Street,	From White to Ansonia Street	New grade.
East Street,	From Albany Avenue to Mather Street	Building and Veranda lines.
Eaton Street,	North Side, Wethersfield Avenue to Franklin Avenue	Building and Veranda lines.
Enfield Street,	East Side, Capen to Mather Street	Building line.
Fairfield Street,	West Side, White Street northerly 90'	Building line.
Farmington Avenue	Flower Street to Prospect Avenue	Building and Veranda lines.
Farmington Avenue	At southeast corner of Sisson Avenue	Street line.
Forest Street,	From Hawthorn Street southerly	Veranda line.
Greenwood Street,	East side from Grace Street southerly	Veranda line.
Hillside Avenue,	East side, New Britain Avenue southerly to White Street	Building and Veranda lines.
Holcomb Street.	South side	Building and Veranda lines.
James Street,	From Park Street to Capitol Avenue Extension	Veranda line.
New Britain Ave.,	South side, from Fairfield Avenue to Hillside Avenue	Building and Veranda lines.
Plainfield Street,	North side from Blue Hills Avenue to Ridgefield Street	Building line.
Prospect Street,	West side, between Atheneum and Arch Streets	Street line.
Sheldon Street,	North side, Front to Commerce Streets	Street and Building lines.
Sumner Street,	Asylum Street to Collins Street	Veranda lines.
Wethersfield Ave.,	West side, from Morris Street to Victoria Road	Building and Veranda lines.
White Street,	Fairfield Avenue to Maple Avenue	New grade.
Windsor Street,	Canton Street to Suffield Street	New grade.

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NEW STREETS LAID OUT, AND STREET, BU ILDING AND VERANDA LINES AND GRADE ESTABLISHE D ON SAME.

Barker Street Ext.,	Wethersfield Avenue to Franklin Avenue	
Bonner Street Ext.,	Hillside Avenue westerly	
Bradford Street,	Roxbury Street to Henry Street	
Catherine Street,	Zion Street to Ledger Street	
Cherry Street,	Sisson Avenue to Orange Street	
Edgewood Street,	Vine Street to Garden Street	
Francis Avenue,	Park Street to Francis Court	
Hamilton Street,	Bartholomew Avenue to New Park Avenue	
Harwich Street,	Roxbury Street to New Britain Avenue	
Henry Street,	Roxbury Street to Bradford Street	
Ledger Street,	Bonner Street to Catherine Street	
Manetock Street,	Terry Road to Albany Avenue	
Newbury Street,	Roxbury Street to New Britain Avenue	
Roxbury Street,	Fairfield Avenue to Broad Street	
Thomaston Street,	Blue Hills Avenue easterly	
Wilton Street,	Zion Street to Ledger Street	

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NEW LINES OF SIDEWALKS AND CURBS ESTABLISHED.

Allyn Street,	South East corner of Union Place	New curb line.
Blue Hills Avenue,	City Line of 1859 northerly	New curb line.
Crescent Street,	Broad Street to New Britain Avenue	Walk and curb.
Farmington Ave.,	Both sides, Junction to City Line	Walk.
Francis Avenue,	Park Street to Francis Court	Walk and curb.
Front Street,	Grove Street to Arch Street	New curb line.
Front Street,	West side, between State Street and angle in west street line of Front Street	New curb line.
Front Street,	At corners of Ferry, Temple, Talcott and Morgan Streets	New curb line.
Garden Street	Albany Avenue to Railroad	New curb line.
Harper Street,	Love Lane to Keney Park	Walk and curb.
Homestead Ave.,	Burton Street to Garden Street	Walk and curb.
Love Lane,	Westland Street to Vine Street	Walk and curb.
Marsh Court,	Windsor Street easterly to Market Street	New curb line.
New Park Avenue,	East Side, Hamilton Street to City Line	Walk.
Park Street,	John Street to Zion Street	New curb line.
Pope Park Highway No. 4,	Both sides	Walk and curb.
Waverly Street,	Love Lane to Keney Park	Walk and curb.
Windsor Street,	Sanford Street to City Line	Walk and curb.
White Street,	Fairfield Avenue to Maple Avenue	Walk.

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REPORT

OF THE

SUPERINTENDENT OF STREETS

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REPORT OF THE SUPERINTENDENT OF STREETS

ON THE WORK DONE IN THE STREET DEPARTMENT DURING THE PAST YEAR

HARTFORD, CONN., May 22, 1913.

TO THE HONORABLE BOARD OF STREET COMMISSIONERS,

Hartford, Conn.:

Gentlemen:—The following is a report of work done by the Street Department during the past year. This is drawn up with reports on different classes of work separated as in the list of items given in the statement of expenditures. Under each item is given a statement of amount and extent and success of the work done.

I. GRADING AND TURNPIKING.

This account includes, *First:*—Grading roads for macadamizing; *Second:*— Rough grading of streets for the purpose of operating them for development, including also the grading of sidewalks; *Third:*—Turnpiking or shaping existing traveled earth roads so that they may be made more passable.

Under Item One, the following work has been completed and streets named also macadamized:

NAME OF STREET.	LENGTH.	COST.
Adams Street	1150 feet	$452.25
Baltimore treet	450 "	85.13
Barker Street	825 "	341.10
Blue Hills Avenue	4200 "	4,273.44
Bodwell Street	535 "	159.51
Camp Field Avenue, Otis Street to Preston St.	300 "	127.63
Capitol Avenue Ext., to Sisson Ave. to Smith St.	750 "	599.07
Chadwick Avenue	1220 "	371.86
Edgewood Street to Mansfield Street	300 "	89.05
Elizabeth Street	720 "	476.62

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Essex Street	550 "	983.97
Freeman Street (No curb)	250 "	57.25
Garden Street, Railroad to Albany Avenue	1070 "	142.37
Hillside Avenue, New Britain Ave., so. one-half	870 "	486.13
Homestead Ave., Burton St. to Garden Street	1080 "	1,121.11
James Street	440 "	163.07
Preston Street, west to Camp Field Avenue	650 "	636.63
Raymond Street, east to Enfield Street	500 "	203.75
Southbury Street, Harvard St., to Mountain St.	600 "	151.88

The total length of streets which has been graded was 16,460 feet. The total expenditure for such grading was $10,921.82, giving an average cost per lineal foot for grading streets for macadamizing of sixty-six cents per foot, a higher average than last year, as Blue Hills Avenue which cost $1.02 per foot and Homestead Avenue at $1.04 per foot are included in the above. Leaving out these two streets on which the cost was high owing to the nature of the soil, etc., the average cost of grading was forty-nine cents per foot.

Item 2:—Streets to be rough graded:

In connection with the rough grading of streets, the policy of grading them to the depth necessary for the construction of future macadam pavement so that the amount of grading to be done before macadamizing should be very small has been established with good success.. The following is a list of such streets which were rough graded during the past year. Affleck Street; Capitol Avenue Extension; Madison Street; and Newton Street.

Sidewalks were also graded on Broad Street; Harrison Place; Wethersfield Avenue and Windsor Avenue.

The total cost of this rough grading work was $5,726.44 and the average cost per cubic yard for moving earth varied from 25 to 55 cents, according to the length of the haul and the conditions and nature of the material excavated.

Item 3:—Turnpiking earth roads:

In connection with the work of rough grading and turnpiking streets I wish again to call your attention to the need of rough grading streets at the time they are laid out. If it were possible to bring all legally accepted streets into passable condition at this time, I believe the value of the property could be con-

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sidered as very much greater as all building lots would be accessible.

2. MACADAMIZING.

With respect to the work of macadamizing streets, experience seems to indicate that the use of crushed stone roads, pure and simple, is not proper for streets which carry any considerable amount of travel but at the same time, no cheap street pavement has yet been devised which can be considered sufficiently permanent to justify the extra expense of construction. Possibly the use of a concrete foundation with the bituminous flush coat will solve this difficulty. The following list of streets were macadamized during the past season, most of them entirely completed but on some of the streets there will be necessary a small amount of rolling and top dressing to complete.

NAME OF STREET.	LENGTH.	COST.
Adams Street	1150 feet	$1,661.26
Baltimore Street	450 "	746.92
Barker Street	825 "	1,955.76
Blue Hills Avenue	4200 "	9,560.73
Bodwell Street	535 "	638.76
Bushnell Street	1770 "	1,402.24
Cabot Street	1220 "	1,975.83
Camp Field Avenue	300 "	341.63
Capitol Avenue Extension	750 "	1,667.64
Chadwick Avenue	1220 "	2,128.97
Edgewood Street	300 "	419.64
Elizabeth Street	720 "	1,435.50
Essex Street	550 "	1,053.50
Francis Avenue	2070 "	2,105.51
Garden Street	1070 "	1,953.26
Hillside Avenue	870 "	400.26
Homestead Avenue, Burton St. to Garden St.	1080 "	2,205.80
James Street	440 "	705.44
Kenyon Street	300 "	329.25
Magnolia Street	300 "	564.48
Preston Street	650 "	1,939.20
Raymond Street, Vine Street easterly	500 "	886.15
Southbury Street	600 "	1,175 70

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The total length of streets macadamized was 21,870 feet and the total cost $37,253.43, making the average cost per foot regardless of width $1.70 or about 80c. per square yard.

In addition to the above a part of Albany Avenue, and Fairfield Avenue at the Engine House were macadamized.

3. RESURFACING AND REPAIRING.

In 1912 a considerable amount of bituminous work was done on the city streets, but the result was not as satisfactory as was expected. The use of bituminous bound roads for city work was discontinued and considerable resurfacing work was done, however, using tar for patching and asphalt and tar for flush coating surfaces. The streets which were re-macadamized were as follows:—Albany Avenue; New Britain Avenue; Park Street from John Street to Sisson Avenue; Prospect Avenue; Wethersfield Avenue and Windsor Avenue. In addition to the above the following streets were improved with slight repairs:—Barbour Street; Beacon Street; Bellevue Street; Bliss Street; Boulevard; Capitol Avenue; Capitol Avenue Extension; Charles Street; Charter Oak Avenue; Commerce Street; Franklin Avenue; Front Street; Garden Street; Girard Avenue; Grove Street; Hamilton Street; Linden Place; Maple Avenue; Morgan Street; Morris Street; Potter Street; Pleasant Street; Raymond Street; Sigourney Street; Talcott Street; and Washington Street.

In addition to the above outlined work smaller repairs were undertaken on other streets where necessary, patch carts being continuously employed and many experiments made with the use of tar and other materials for patching. The total expenditure for this account is $46,903.24. The unit cost per square yard cannot be determined as the nature and extent of the work necessary was so varied.

The patching of depressions in macadam roads was successfully done by the use of a soft grade of tar, or by the use of a cold patching mixture known as Headley's No. 1. Depressions treated with either one of these substances were permanently repaired.

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4. IMPROVED PAVING AND REPAIRS.

The only item under this heading which was directly under the Superintendent of Streets is General Repairs or patching and repairing worn out pavement. The supervision of the construction of new pavements is in the hands of the City Engineer and therefore out of the jurisdiction of the Superintendent. The total cost of General Repairs on all improved pavement was $9,262.46. In addition to this portions of Main Street were resurfaced at an expense of $26,000.

5. ASHES AND GARBAGE.

During the past year a study was made of a system by which the City should collect the ashes and garbage with its own force and all of the information thus gained has been transmitted as far as possible to the new Superintendent of Streets, and a system has been inaugurated whereby the collecting of ashes and garbage is now being made.

6. AUTOMOBILES.

The use of the automobile in the department during the past year has again demonstrated its value as a means of communication and facilitating work.

7. BRIDGES.

Repairs were made to bridges as follows:—Boulevard; Capitol Avenue; Commerce Street; Ford Street; Flatbush Avenue; Laurel Street; Front Street and Edwards Street.

9. CROSS AND SIDEWALKS.

Crosswalks have been constructed at the following points in the city:—Broad Street at Ward Street; Deerfield Avenue at Greenfield Street; East Street at Belden Street; Edgewood Street at Greenfield Street; Ellery Street; Essex Street at Maple Avenue; Essex Street at Retreat Avenue; Francis Avenue at Park Street; Franklin Avenue at Otis Street; Garden Street at

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Ashley Street; Greenfield Street at Edgewood Street; Garden Street at Sigourney Street; Hamilton Street at Hillside Avenue; Homestead Avenue at Edgewood Street; Homestead Avenue at Oakland Terrace; Homestead Avenue at Sigourney Street; Huyshope Avenue at Colt's Patent Fire Arms Company; Huyshope Avenue at Weehassett Street; Lafayette Street at Park Street; Lenox Street at Greenfield Street; Madison Street at Broad Street; Madison Street at Kibbe Street; Maple Avenue at Franklin Avenue; North Beacon Street at Fern Street; Oakland Terrace; Potter Street at Ellery Street; Sisson Avenue at Boulevard; Sisson Avenue at Cherry Street; Sterling Street at Albany Avenue; Vine Street at Edgewood Street;; Vine Street at Raymond Street; Van Block Avenue at Weehassett Street; Warrenton Avenue at Prospect Avenue; Windsor Street No. 277; Windsor Street at North Street; Woodland Street at Homestead Avenue; Zion Street at Flatbush Avenue; Zion Street at Grand Street; Zion Street at Park Terrace and Zion Street at Summit Street.

During the past year 13 concrete crosswalks were built in streets where traffic is light at a cost of $246.96, and the results seem to justify a continuance of this experiment.

9. CULVERTS AND INLETS.

Under this item is included the construction of new catch basins as well as the repairs and cleaning of old ones. The total of 130 catch basins have been constructed by our own employees during the past year and repairs have been made as shown in the report of the Assistant Superintendent. Three gangs of catch basin cleaners have also been constantly employed cleaning out catch basins and very little trouble has been experienced with stopped basins or from other causes. The total expenditure on the Culverts and Inlets Account was $13,991.19. The cost for catch basins average $50 with connection and cover complete as against $65 under previous contract and $1.10 per foot for connections.

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10. FORESTRY.

The work of the forestry department has been successful. It seems that the elm beetle is gradually becoming less in number, as indicated by the increase in the amount of the foliage on the elm trees. Trees planted by this department have grown well, and the nursery has been kept in proper condition.

11. INCIDENTALS.

To this account is charged many miscellaneous items including the pumping of sewerage from the section south of Sheldon Street during high water; payment for the pumping of sewerage at the Colt's Patent Fire Arms Company and many items of expense at the machine shop including some tools and repairs. In this connection considerable work has been done in the last year in experimenting with street signs. Double-faced signs, readable from both sides have been established on all the main avenues at a very small cost, the difficulty being, however, to secure a paint which will stand the weather. So far satisfactory paint has not been found, it being necessary to repaint the signs at frequent intervals to keep the letters distinct and sightly.

12. OFFICE EXPENSES.

The work of the office has been carried on as in the past. Particular attention has been paid to the cost of work, data being kept at the time the work has been in progress, and is available at all times so that the condition of the appropriations is always known.

13. SALARIES.

The fixed salaries of the Board and other officials of the department are shown under Number 13 of the General Account.

14. SEWER REPAIRS.

Under this item is included the repairs and ordinary cleaning of all sewers. A considerable portion of this work is covered in the report of the Assistant Superintendent but I wish to call

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your attention to the fact that a portion of the Park River Interceptor was found at the early part of the season to be in very bad condition and was rebuilt under contract at an expense of $6,149.93. Also old sewers were rebuilt in Windsor Street, Pleasant Street, Kilbourn Street, Front Street and Temple Streets as shown in the General Account which the City of Hartford pays one-half of the cost of these sewers.

15. STEAM ROLLER REPAIRS.

Steam roller repairs have been made by this department with its mechanical force and a large saving is caused by keeping the steam rollers in good repair at all times, the usual custom being to run the rollers all summer and repair only in the winter.

16. STOREHOUSE AND YARD.

Much miscellaneous mechanical work has been done in the city repair shop and many devices for street cleaning, street oiling and street signs, and other departmental purposes have been constructed.

17. STREET CLEANING.

The practice of flushing streets by night has been carried on as during the year previous and no reason has been found to discontinue the night flushing or the resumption of watering the permanent pavements. I trust the condition of the streets will be much better as a result of the collection of the ashes and garbage by the city's own forces, as much of the complaint previously was due to the spilling of material from barrels and boxes placed on the curb by the contractor's employees. The total cost of street cleaning is $66,015.48 and the cost for cleaning improved pavement, including the cost of street flushing, only a portion of which can be considered as street cleaning, is $39,068.36. A portion of the street flushing cost might be properly charged to street sprinkling. The cost of cleaning macadam streets is $26,947.12. The above items include not only the cost of labor of street cleaning but snow removal, sanding, materials, tools, supplies and supervision.

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18. STREET SPRINKLING.

The work was done within the appropriation of $35,000, and the number of complaints of dust was very small. A large amount of oil was used with success during the summer time, but with the same complaint of mud and slush during the winter. It seems, however, that public opinion, demands the use of oil in the summer time, and the property owners are willing to submit to the discomfort which comes from the mud in inclement weather.

19. STREET LIGHTING.

The street lighting system of Hartford has given a good measure of success during the past year, but the Business Men's Association and the Court of Common Council thought the street lighting in the center of the city was not effective as it should be, and therefore your superintendent was instructed to prepare a definite plan for an ornamental street lighting system for the center. This plan was carefully prepared and submitted to the Business Men's Association and the Court of Common Council and Board of Street Commissioners. It provides for the installation of single or double lights on the central main streets of the city, and at the time of the change in the superintendent, the plan was transmitted to the new superintendent aand Dr. Louis Bell to prepare contracts for the installation and operation of this system.

20. ESSEX STREET DAMAGES.

$3500 was appropriated to this department for the purpose of paying land damages to the Hartford Retreat for land taken for the layout of Essex Street between Maple Avenue and Retreat Avenue . This street was graded, curbed and macadamized during the season of 1912.

21. CLEANING PARK RIVER AND REBUILDING DAM.

Possibly the most important work done by the street department during the year was the removal of the Daniel's Dam

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and the Daniel's Mill and the cleansing and filling of the river bed from Ford Street Bridge to Main Street.

Five thousand dollars was appropriated for this purpose and the work was carried on as far as possible with the amount in hand. I trust that the work of cleaning the river, rip rapping and filling the banks and the consequent widening of Jewell Street with the relocation of the Trumbull Street bridge may be carried to a completion at once.

ASHES AND GARBAGE.

Also include report in regard to ashes and garbage as submitted to Your Honorable Board under date of March 26th, 1913.

HARTFORD, CONN., March 26th, 1913.

Honorable Board of Street Commissioners, City of Hartford:

GENTLEMEN:—I submit herewith a report on the general topic of the "Removal of Ashes and Garbage" for the City of Hartford:

It seems necessary at this time to recommend that the City of Hartford make a collection of the City waste by their own employees rather than by awarding the contract for the collection and disposal on account of the fact that there has been so much dissatisfaction expressed with the contract system, and while much of this criticism is unjust and improper I think the only satisfactory solution, which will do away with the criticism will be for the city to take over the collection in the future. It is evident that if the city undertakes the collection of the waste, the cost of the work will be much more than if awarded by contract, for several reasons:

First:—Increased efficiency of collections in making them without regard to monetary profit, but, rather in the best possible way.

Second:—The larger wages and shorter hours of work.

Third:—The general tendency of city employees to give rather poorer service than is given by contractor's help, which

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can be employed or discharged at will. The waste to be collected in Hartford can be divided into two classes.

(a) Ashes which include non-putrescible waste such as boxes, paper, excelsior, coal ashes and the like.

(b) Garbage which includes offall, kitchen waste and all other organic material which is liable to become obnoxious.

There are two general systems of collection which can be considered.

First:—The combined collection of both ashes and garbage, with the use of some modern disposal plant, and s.

Second:—A separate collection with the disposal of the ashes by dumping and burning, or selling the combustible material and disposing of the garbage by selling for pig food, or using a reduction plant.

On account of the laws of Hartford, and general public opinion, it would seem best to install the separate collection system.

Ashes, as defined above, consists of coal ashes and non-putrescible material and with a proper system of separation by the householder, no obnoxious material would be collected under this head. On this account it would be unnecessary to collect ashes more than once a week excepting where the amount is so large that a proper number of cans could not be furnished to contain the large accumulation of material. It is therefore suggested that ashes would be collected once a week outside of the central sections of the city, where the collections can be made two or three times a week, as necessity arises. These collections can be made early in the day and the teams then separated so as to spend the remainder of the day in the portions of the city where the collections are made weekly.

In the collection of ashes, proper restrictions should be made as to placing the material in cans and burning the papers, and the separation of the paper and rubbish from ashes. The size of the receptacle should be designated so that in the event of placing the material in the wagons, the can or barrel would not be too heavy for two men to handle. Provisions should be made for collecting small quantities of building refuse where slight repairs

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are made to houses for the collection of cut grass, bush clippings, garden refuse, and small quantities of leaves.

The type of wagon to be used to be large, of easy draft, and easy to dump. A sample of this type of wagon is on exhibition at the City Yard at the present time. It seems proper also that the cans for ashes should be removed from behind the houses and returned to the house from which they were removed. This method of collection would be extremely expensive but would also be of great benefit to the householder and to the appearance of the street.

All of this material collected under the head of ashes should be carreid to certain specified dumps throughout the city, and proper restrictions made as to the covering and picking of these dumps.

In this connection, attention should be called to the fact that certain rag pickers are licensed to pick over the refuse which is placed on the sidewalks for collection, and the existence of these pickers is the source of a great deal of annoyance to the Street Department in the work necessary to keeping the streets in a sightly condition. It is suggested that the ordinance covering the licensing of rag pickers be repealed and the right to pick papers on the street be done away with. All material placed by the householder should be collected by the department and delivered at the dumps. The removal of valuable material should be sold to a contractor at as large a price as possible and the contractor be required to keep the dumps in a sightly and sanitary condition. I also wish to call your attention to the fact that there is a possible revenue from the sale of tin cans to the Metals Reduction Company, Inc., 7 East 42nd Street, New York. There is also a revenue to be secured from the sale of paper, rags, bottles broken porcelain, boxes and barrels. All of these sources of revenue should be available to the city, rather than to the private collector. I estimate the value, roughly, of waste material which at the present time, goes to the rag pickers in Hartford, at approximately $6,000 a year.

It seems to me that by a proper arrangement of the system

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for collection that this revenue can be secured to the City of Hartford.

The collection and disposal of garbage is a much more difficult proposition than that of ashes. If the city should at the present time, undertake to collect and dispose of the garbage itself, it would be practically swamped by an accumulation of putrescible material with no means of disposing of it. The system has been outlined and certain definite collectors secured whereby the garbage can be collected by farmers and by them fed to pigs outside of the city limits. In this way a certain saving of money will be made in the disposal of the garbage and a large amount of material which otherwise would have to be destroyed will be taken care of without expense to the city. At the present time there are some sixty odd collectors picking garbage here and there throughout the city and these collectors can be utilized, I think, to simplify the proposition of garbage collections to be undertaken. At the present time, it is the custom for the hotels, the large restaurants, and the boarding houses, to sell the garbage to private collectors, allowing them to remove the garbage and take it to their farms for feeding the stock. This practice, I think, can be continued, but the hotels and collectors should be forced to live up to the rules of the street department as to the type of wagons to be used, frequency of collections and efficiency of service.

The collectors from the hotels should be required also to take a certain amount of clean garbage from other sources in the city and the number of private collectors reduced to about twenty.

A certain type of wagon should be specified for the collection of garbage. The wagon should have a steel body; it should be water-tight, with a proper canvass or iron cover which must be closed when garbage is not being deposited in the wagon. The private collector should be required either to furnish a wagon of his own or he should be furnished a wagon by the city. If the private collector furnishes his wagon, he should be required to take the wagon in which collections have been made by the city employees and replace it with his own so that no changing of

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loads of garbage shall be made within the city limits. If the wagon is supplied by the city to the collector, the collector should be required to make collections himself with the assistance of employees of the city department, and should be required at all times to keep the wagon in a sanitary condition in conformation with the rules of the Board of Health and the Street Department.

Some modifications of the rules of collection might be made whereby cans belonging to hotels or private establishments could be taken up by the collector, placed in covered wagons and removed to the farm, there being emptied and returned in a clean condition to the source from whence they came.

A certain number of collections must be made by the city and the garbage thus secured might be sold by the load to farmers, who must take the load at the city line and remove it totheir farms.

It is evident that even with the system of collecting outlined above, there will be some sections of the city where the garbage will be of no value. I refer particularly to the section of the city known as theEast Side, in which inevitably, there must be a mixture of garbage and refuse which could not be fed to stock. Frequent collections should be made in this area and this material placed at the bottom of ash dumps and properly covered with ashes, dirt, or other clean material.

The frequency of garbage collections should be as follows:

In the central congested portions of the city, collections should be made daily during the summer months and three times a week in winter.

In other sections, collections should be made three times a week during the summer and twice a week during the winter time, with the exception of certain outlying districts where one or two collections a week might suffice.

Having considered the collection of both ashes and garbage there are certain general suggestions which might be made relative to the operation of this part of the Street Department's work.

The present ordinance for the employment of labor provides for an eight hour day and a minimum wage of $2.00 for this day. My suggestion would be to salary the man to be employed in the

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collection of ashes and garbage, at, say $600.00 per year and require them to work nine hours per day and in the event of a longer day being required, an adjustment be made of the time so that the total number of hours of work during the year should not exceed 2700. No Saturday half-holiday should be allowed and the men should be continuously employed. The present rate of pay for teams is $5.00 per day of eight hours, and I should suggest that a modification of this rule be made and a rate of pay established on a yearly basis, requiring a certain number of days of nine hours each per year, at the rate of $5.00 per day, making the rate of pay for team and driver, say $1500 per year.

The above is an attempt to outline a system of collections and disposal which will take effect on the first day of June next. It will be necessary between now and June 1st to purchase a number of wagons for the collection of the ashes and garbage. It might be considered wise possibly, to hire the ash wagons which at the present time are owned by different contractors throughout the city, but my suggestion would be to purchase new wagons of a type satisfactory to the department and have these wagons the property of the city.

The garbage wagons should be new and of a type different from those ever used before. Certain types of wagons have been investigated and I suggest that these wagons be considered by the Superintendent of Streets with a view to purchasing the proper kind of wagons for garbage collections.

The above mentioned system, of course, would be temporary as I feel that in the future, as the pubilc becomes more and more educated to the necessity for proper sanitation, it will be found that a mechanical system of destruction or reduction must be installed.

The following is a general description of the reduction and destruction systems in different cities:

The reduction of garbage by treatment in so called reduction plants has been studied extensively in a great many cities in the United States and in many instances with little success. Many cities have constructed reduction plants at large costs and have found that not only was reduction unsuccessful as a sani-

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tary solution of the garbage question, but a failure as an economic proposition. Furthermore, the products of reduction such as grease which is sold for certain purposes and the residual material "tankage" are of very slight value. In fact, certain of the cities which have reduction plants are unable to sell the products of the reduction plant and they are thrown away in almost as bad condition as the crude material.

Our attention is next called to the entire disposal both of ashes and garbage, either by crematories, incinerators or destructors. A crematory, quoting from a work on this topic, is a furnace in which garbage and other refuse matter is burned with free combustion at comparatively low temperature.

An incinerator is a furance in which the temperature should be maintained at from 1,500 to 2,000 degrees Fahrenheit for the destruction of the wastes by the intense heat in a closed retort, rather than by free combustion. The process is then one of coking or reduction to cinder rather than of burning.

The destructor consists of a furnace under forced draft from steam jets or blower fans, the furnace heat generating steam power which will operate the engine and steam jets for the draft.

Either one of the three processes mentioned above will serve to dispose of mixed ashes and garbage. Of the three types, it is clear that the destructor gives the most satisfactory method of disposing of ashes and garbage. The material is entirely reduced to clinker which can be used for the construction of sidewalks, concrete floors, park benches, and other appliances, which are at present constructed of concrete made of broken stone. Many arguments have been made in favor of this means of disposal of city waste as follows: First, the entire removal of any objectionable organic material from the city waste as finally placed on low land, which is the ideal result and in view of the advance of public sentiment in favor of removing all objectionable odors, will give perfect satisfaction to this demand.

It is also possible that with the use of the destructor, the resultant heat may be converted into power for commercial purposes such as street lighting or the running of sewer pumping

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plants, etc. While it is true that there is available power from the destructor, the marketing of power by municipalities is difficult. It is evident that unless the City can sell its power, it cannot expect to operate the destructor with true efficiency. Conversely it also seems evident, that it is impracticable for a city to compete with specialists selling in their own field. I refer particularly to the use of electric power for street lighting. The possibility of a city lighting its streets cheaper through its own plant, than by contract with outside lighting companies is doubtful. The lighting company possess transmission lines which are constructed to serve the private owner with light and power and the street lighting can be taken from the same transmission lines without any great excess of cost. While the city is put to great expense for the cost of distributing power.

Furthermore, with the destructor plant, a large collection of material is secured in the winter time, and must be disposed of at that time, while in the summer time, a less amount is secured Therefore the amount of available power fluctuates. Hence the operation of any successful destructor plant as a commercial proposition seems not feasible.

I do not, however, intend to discard the scientific disposal of refuse as unnecessary on account of its unattractiveness from a commercial standpoint. On the contrary, I feel that the public demands and is willing to pay for proper removal and disposal of these waste products. I feel also that disregarding the value of the refuse entirely, it is due to the public that a thoroughly sanitary disposal of the material should be made. The destructor system seems most satisfactory.

In the above, some doubt is suggested as to the efficiency of a reduction system. There is at the present time, however, a system of reduction installed in Springfield, which may prove to be a benefit, and efficient. This system is installed by a private reduction company at its own expense, and the city must deliver to this company at its plant, the garbage produced in the city. The plant will be operated by the reduction company at no expense to the city, the profit being in the sale of the products of reduction. This system of reduction, if efficient, would

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be satisfactory to Hartford. At the end of ten years the reduction company will agree to sell the plant to the city for approximately half the cost of construction, say $50,000. If the city is not willing at that time to take over the reduction plant, the company will agree to carry on the work for another ten years, at which time the plant becomes automatically the property of the city.

The difficulty with this method of procedure it that the city must deliver the garbage to the plant, making collections at its own expense and paying for the increased haul to a plant which, on account of sentimental sanitary objections, must be located outside the populated district. As a matter of fact, a reduction plant, if efficient, could be placed within the built-up section of the city to good advantage.

This final suggestion can be carried out, as I am credibly informed that the company operating in Springfield would be willing to install such a plant in Hartford.

CHARLES J. BENNETT,

Superintendent of Streets.

MISCELLANEOUS WORK.

Considerable work of a miscellaneous nature has been done by the street department during the past year. Such work is always necessary and in many instances the amount and character cannot be foreseen, so that the expense must of necessity be taken from other appropriations. The work varied from the cleansing of mosquito ditches in the south meadows to the reconstruction of about one thousand feet of the Park River Interceptor.

CONCLUSION.

I regret exceedingly at this time that my pleasant relations with the Board of Street Commissioners and the employees of the street department have been severed. The Board has treated me with unfailing courtesy and consideration and has in no measure hampered or hindered the work of the street department by pol-

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itical interference Formen and employees have given conscientious service to the city and to them is due whatever success has been gained.

While I regret leaving the service of the street department, I feel no fear for the future success of the department under the guidance of the new superintendent.

Respectfully submitted,

CHARLES J. BENNETT,

Superintendent of Streets.

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SEWER DIVISION

INTERCEPTING SEWER—LOCAL SEWERS—CATCH BASINS—CULVERTS AND CROSSWALKS.

MR. CHARLES J. BENNETT, Supt. of Streets,

Dear Sir:—The following is a report of the work done by this division of the department for the season of 1912-1913, all of which is recpectfully submitted.

LOCAL SEWERS.

During the season of 1912-1913 there were 86 repairs made to old sewers on 76 different streets throughout the City. The need of making the repairs was because of the old sewers giving out in places where the joints, not properly made on the house laterals, had broken away from the main sewer, or if of brick or cement tile the same had collapsed. In connection with this report, I might say that we laid about 300' 0" of 6" tile to underdrain Garden Street, south of Capen Street, where in the late winter, owing to the nature of the soil, the street had become impassable so much so that we had to build a bridge for a distance of about 100' 0". Also on New Britain Avenue east of White Street we laid a 6" underdrain for about 150' 0" to drain a spring which was continually undermining the curb. Where the improvements were made to the banks of the Park River near where the Daniel's Dam stood, it was necessary to extend an overflow sewer 24" in diameter for a distance of about 50' 0".

INTERCEPTING SEWER.

This sewer continues to do its work well and is carefully looked after. The syphon manholes are cleaned when it becomes necessary, and in different places where large deposits of gravel aand sand accumulate, the same are removed by using our sewer cleaning machine. In connection with this sewer,

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there is a 12" overflow at the west end of Harbison Avenue,, which was originally built of tile, but owing to the wash from the Park River at this point the tile was undermined every year, and to overcome this we built a 12" iron pipe overflow laid on concrete foundations.

CLEANING SEWERS.

The sewer cleaning machine was worked with good results for nearly the entire season, and sewers were cleaned on the following streets: Elliot Stret; Elliot Place; Garden Street; New Britain Avenue; Clermont Street; Green Avenue; New Park Avenue; Hazel Street; Risley Street; Martin Street; Donald Street; Charlotte Street; Mather Street; Charter Oak Avenue, and the Interceptor Sewer from Farmington Avenue to Hawthorn Street. The total cost of repairing and cleaning was $5,606.13.

SEWER MANHOLES.

On old sewers that were located, but had no manholes, three new manholes were built. On newly macadamized streets and streets that were resurfaced, we repaired and brought to grade 68 manholes.

CATCH BASINS.

The number of new catch basins built during 1912-1913 was 130. We continue to use the 3" land inlet to underdrain the curb. The style of basin used is the same as last season, called the Hartford. The cost of building new basins was $5,930.71. Repairs were made to 157 old basins, and as in the past where we came in contact with the old style stone trap, the same was removed and the 10' 1-4 bend is used. There are now in the city about 2630 basins and to keep them clean three gangs of men and carts are employed while it is possible. The cost of the repairs to basins and cleaning same was $6,684.86.

CULVERTS.

Repairs were made to culverts on New Britain Avenue at the Wildwood Sanitarium where 36' 0" of 15" iron pipe was

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used. We also made repairs to Franklin Avenue culvert at Folly Brook. This culvert had become undermined by the wash from the brook at the west end. Repairs were made with concrete and four cars of rubbish were used to rip rap the banks. Complaints were made of the flooding of Humphrey Street near White Street, and to help matters here we laid an iron pipe to take water across the street.

CROSSWALKS.

There were laid during the season a total of 53 crosswalks, This is an increase over last season of 19 crosswalks, which shows us that the demand for crosswalks increases from year to year. Of the total number laid, 40 were of granite, and 13 of concrete. Those of concrete were laid in purely residential sections on the outskirts of the city and they seem to wear well where the traffic is light. The cost of laying new walks was $2,681.59. The number of old crosswalks repaired and rebuilt was 115 and the cost of same was $1,584.16.

Respectfully submitted,

WILLIAM J. SHEEDY,

Assistant Superintendent.

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REPORT

OF THE

Board of Water Commissioners

FOR THE

Year Ending March 1, 1913

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EDW. B. HATCH

THOS. A. SHANNON

ARTHUR J. McMANUS

JUDSON H. ROOT

F. S. GOODWIN

R. J. KINSELLA

F. D. BERRY
Secretary

C. M. SAVILLE
Chief Engineer

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HARTFORD WATER DEPARTMENT

1912

THE BOARD OF WATER COMMISSIONERS.

JUDSON H. ROOT.....Term Expires, 1913
ARTHUR J. McMANUS.....Term Expires, 1913
THOMAS A. SHANNON.....Term Expires, 1914
EDWARD B. HATCH.....Term Expires, 1914
F. SPENCER GOODWIN.....Term Expires, 1915
RICHARD J. KINSELLA.....Term Expires, 1915

FRED D. BERRY, *Secretary.*
CALEB MILLS SAVILLE, *Chief Engineer.*

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REPORT.

Hartford, Conn., March 1, 1913.

To the Honorable Court of Common Council, City of Hartford,
Gentlemen:

In compliance with the Charter and Ordinances, we have the honor to present this, our Fifty-ninth Annual Report, being for the fiscal year ending March 1, 1913. We transmit herewith the reports of the Secretary and Chief Engineer, to which we invite your attention for details and particular information regarding the finances of the Department and conduct of the work during the above period.

For a detailed statement of our receipts and disbursements for the fiscal year we refer you to the semi-annual accounts current, which were submitted to your Honorable Body after they had been examined and approved by the City Auditing Committee.

The Board extends to His Honor the Mayor, and members of the City Council, its acknowledgments for courtesies received during the year.

Respectfully submitted,

JUDSON H. ROOT,
F. SPENCER GOODWIN,
ARTHUR J. McMANUS,
THOMAS A. SHANNON,
RICHARD J. KINSELLA,
EDWARD B. HATCH,
Commissioners.

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Hartford, Conn, March 1, 1913.

To the Honorable Board of Water Commissioners
of the City of Hartford,
Gentlemen:

I submit herewith my Financial Report for the fiscal year ending March 1, 1913:

RECEIPTS.

Cash on hand March 1, 1912	$23,612.12
Cash in sinking fund	104,042.28
Cash from water rents for 1911	50.85
Cash from water rents for 1912	362,715.16
Cash from main pipe	21,485.55
Cash from service pipe	6,838.63
Cash from meters	1,644.50
Cash from meter repairs	43.26
Cash from general repairs	7.66
Cash from fire hydrants	7,979.13
Cash from interest on deposits	3,664.56
Cash from sundries	987.45
	$533,071.15

DISBURSEMENTS.

Construction.

Administration Division	$ 383.73	
Distribution Division	141,445.50	
Headquarters Division	13,913.26	
Designing Division	6,317.91	
Reservoir Division	12,752.19	
Nepaug Division	10,079.03	
East Branch Division	21,178.43	
		$206,070.05

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Maintenance.

Administration Division	$42,976.08	
Distribution Division	79,957.70	
Headquarters Division	4,726.77	
Reservoir Division	21,407.98	
Nepaug Division	30.14	
East Branch Division	80.84	
		$149,179.51

Sinking Fund.

Fund for retiring bonds when due and extraordinary expenses	$108,578.45
Cash on hand	69,243.14
	$533,071.15

Bonded Debt.

Consolidated Water Bonds, mature July 1, 1918, interest 4%	$475,000.00

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CLASSIFIED CONSTRUCTION ACCOUNTS.

	Administration Division.	Distribution Division.	Headquarters Division.	Designing Division.	Reservoir Division.	Nepaug Division.	East Branch Division.	TOTALS.
Salary engineering force	.....	$136.25	$8,005.12	$5,630.45	$5,570.61	$4,356.22	$5,355.36	$29,054.01
Wages of laborers	.....	.....	.....	.....	125.17	54.25	336.50	515.92
Consulting engineers	.....	.....	833.79	.....	.....	.....	.....	833.79
Other expert services	.....	.....	457.90	.....	60.00	420.60	157.19	1,095.69
Furniture and fixtures	.....	.....	537.88	595.00	.....	3.92	2.75	1,139.55
Engineers' instruments, tools and supplies	.....	28.33	1,429.30	76.44	96.81	279.00	300.27	2,210.15
Tools, equipment, machinery and supplies	$41.50	.....	209.81	.....	39.53	28.11	66.62	385.57
Lumber	.....	.....	51.13	.....	.....	41.04	37.77	129.94
Fuel, light and rent	.....	2.45	415.06	.98	.....	.....	80.00	498.49
Stationery and printing	169.93	27.75	642.12	10.29	173.05	.....	12.69	1,035.83
Repairs to machinery, etc	.....	.....	1.00	.....	.....	.....	.....	1.00
Maintenance and repairs, miscellaneous	.....	.....	12.52	.....	16.00	.....	6.02	34.54
Automobile	.....	.....	160.16	.....	.....	5.00	.....	165.16

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Team hire	.....	.....	.....	.....	350.38	468.30	552.00	1,370.68
Automobile hire	142.50	.....	140.70	.....	.....	.....	.....	283.20
Traveling expenses, etc.	25.80	400.00	656.24	4.75	24.95	65.84	158.16	1,335.74
Postage, telegrams, telephone and miscellaneous expense	4.00	53.23	338.53	.....	9.30	72.92	118.07	596.05
Advertising	.....	.....	9.75	.....	71.63	.....	.....	81.38
Legal expenses	.....	.....	.....	.....	.....	.....	21.50	21.50
Searching titles	.....	.....	.....	.....	.....	6.00	2,129.81	2,135.81
Land	.....	.....	.....	.....	220.00	499.80	1,515.00	2,234.80
Main pipe	.....	99,139.16	.....	.....	.....	.....	.....	99,139.16
Service pipe	.....	16,325.40	.....	.....	.....	.....	.....	16,325.40
Hydrants	.....	5,273.52	.....	.....	.....	.....	.....	5,273.52
Gates	.....	8,714.48	.....	.....	.....	.....	.....	8,714.48
Meters	.....	11,344.93	.....	.....	.....	.....	.....	11,344.93
Contract No. 1	.....	.....	12.25	.....	2,249.20	3,778.03	10,328.72	16,368.20
Contract No. 3	.....	.....	.....	.....	2,819.15	.....	.....	2,819.15
Tunnel	.....	.....	.....	.....	48.07	.....	.....	48.07
Pipe line	.....	.....	.....	.....	878.34	.....	.....	878.34
Totals	$383.73	$141,445.50	$13,913.26	$6,317.91	$12,752.19	$10,079.03	$21,178.43	$206,070.05

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CLASSIFIED MAINTENANCE ACCOUNTS.

	Administration Division.	Distribution Division.	Headquarters Division.	Reservoir Division.	Nepaug Division.	East Branch Division.	TOTALS.
Salary engineering force	.....	$5,512.28	$2,387.50	$2,818.48	.....	.....	$10,718.26
Wages of laborers	.....	2,526.36	.....	8,498.43	.....	.....	11,024.79
Consulting engineers	.....	135.98	340.00	.....	.....	.....	475.98
Other expert services	$135.00	1,582.50	.....	315.00	.....	$0.25	2,032.75
Furniture and fixtures	333.13	856.63	1.60	37.58	.....	.....	1,228.94
Engineers' instruments, tools and supplies	.....	1,624.11	203.70	147.33	.....	.....	1,975.14
Tools, equipment, machinery and supplies	7.23	1,007.70	13.40	929.81	$25.87	.....	1,984.01
Lumber	.....	311.36	3.94	301.03	.....	.....	616.33
Fuel, light and rent	1,631.94	927.37	600.00	193.28	.....	3.34	3,355.93
Stationery and printing	1,581.20	207.42	66.73	4.29	.....	.....	1,859.64
Repairs to machinery, etc	.....	152.79	.....	7.33	.....	.....	160.12
Maintenance and repairs, miscellaneous	51.12	104.95	1.50	557.32	.....	.....	714.89
Automobile	583.57	393.96	881.06	.....	.....	.....	1,858.59
Team hire	158.45	801.40	.....	3,136.26	.....	77.25	4,173.36
Automobile hire	447.40	140.39	15.25	25.00	.....	.....	628.04
Traveling expenses, etc	219.27	1,865.70	39.73	29.00	.....	.....	2,153.70
Postage, telegrams, telephone and miscellaneous expense	542.93	90.42	172.36	808.88	1.07	.....	1,110.66

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Advertising	60.58	80.14					140.72
Pumping		25.18					25.18
Hydrants		3,983.48					3,983.48
Gates		587.18					587.18
Main pipe	38.98	11,430.53					11,469.51
Service pipe		5,718.80					5,718.80
Meters		12,409.66					12,409.66
General	109.65	17,432.42		125.64			17,667.71
West Hartford				2,959.61			2,959.61
Salaries	15,500.59						15,500.59
Meter reading	2.95	8,070.61					8,073.56
Bonds (Surety)	192.50						192.50
Sinking fund and interest	20,983.59						20,983.59
New Park Avenue Yard		684.00					684.00
Union Street Barn		1,152.81					1,152.81
Electrolysis		126.57					126.57
Insurance	396.00	15.00		37.50			448.50
Taxes				593.09			593.09
Forestry				34.37	3.20		37.57
Water analyses				345.00			345.00
Barn Reservoir No. 1				8.75			8.75
Totals	$42,976.08	$79,957.70	$4,726.77	$21,407.98	$30.14	$80.84	$149,179.51

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EXHIBIT OF THE RECEIPTS FROM WATER RENTS, THE YEARLY INCREASE OF SAME, AND THE AMOUNT OF CURRENT EXPENSES AND INTEREST FOR EACH YEAR, FROM THE COMMENCEMENT OF THE WORKS.

YEAR	Amount received from Water Rents	Increase of Receipts over the Preceding Year	Repairs and Current Expenses	Interest on Bonds and Temporary Loans	Excess of Receipts over Current Expenses and Interest
In 1856	$ 7,089.06	.....	$ 6,577.84	$13,165.46	.....
In 1857	16,154.19	$9,115.13	7,766.80	44,424.90	.....
In 1858	22,980.16	6,775.97	6,885.56	22,500.00	.....
In 1859	26,003.43	3,073.27	7,771.80	22,602.50	.....
In 1860	30,047.69	4,044.26	8,471.48	22,695.25	.....
In 1861	33,263.56	3,215.87	9,585.16	22,642.25	$1,036.15
In 1862	37,010.90	3,747.34	11,190.22	22,582.00	3,238.68
In 1863	40,847.49	3,836.59	16,129.87	22,779.17	1,438.45
In 1864	45,645.95	5,298.46	21,822.11	23,120.82	703.02
In 1865	54,640.80	8,994.85	26,221.69	22,698.38	5,720.73
In 1866	62,329.08	7,688.28	22,614.87	36,304.25	3,409.96
In 1867	65,465.91	3,136.83	16,389.79	39,049.99	10,026.13
In 1868	68,813.65	3,347.74	15,015.05	43,286.66	10,511.94
In 1869	77,092.06	8,278.41	15,172.54	45,027.17	16,892.35
In 1870	81,638.35	4,546.29	21,591.39	44,919.92	15,127.04
In 1871	83,794.12	2,115.77	25,695.80	47,396.77	11,001.60
In 1872	93,009.28	9,215.16	25,763.40	46,431.66	20,814.22
In 1873	99,228.40	6,219.12	27,707.52	49,034.00	22,486.88
In 1874	103,247.83	4,019.43	33,957.06	54,750.00	14,540.77
In 1875	110,797.11	7,549.28	42,033.01	63,030.00	5,734.10
In 1876	115,540.32	4,743.21	29,661.17	61,620.00	24,259.15
In 1877	116,901.28	1,360.96	26,270.47	63,120.00	27,510.81
In 1878	116,989.68	38.40	30,186.52	63,120.00	23,633.16
In 1879	117,746.61	906.93	30,994.81	62,120.00	24,631.80
In 1880	121,280.66	3,534.05	36,297.24	60,245.00	24,738.42
In 1881	127,542.37	6,261.71	40,115.85	58,745.00	28,681.52
In 1882	132,881.72	5,339.35	36,969.67	57,460.50	38,451.55
In 1883	138,902.75	6,021.03	29,988.49	55,911.67	53,002.59
In 1884	142,196.32	3,293.57	31,943.32	54,803.33	55,449.67
In 1885	143,815.72	1,619.40	30,587.00	54,088.74	59,139.98
In 1886	144,152.04	336.32	31,298.19	52,680.41	60,223.44
In 1887	146,945.58	2,793.54	28,415.99	51,432.50	67,097.09
In 1888	151,529.37	4,583.79	28,940.13	49,932.50	72,656.74
In 1889	154,239.06	2,709.69	31,032.49	48,411.66	74,794.91
In 1890	159,351.41	5,122.35	32,116.83	44,588.75	82,646.83
In 1891	166,600.57	7,249.16	34,835.33	40,120.00	91,645.24
In 1892	172,649.67	6,049.10	31,077.91	41,270.00	100,301.76
In 1893	186,998.96	14,349.29	32,471.74	45,321.89	109,205.33
In 1894	191,726.27	4,727.31	32,150.33	43,770.00	115,805.94
In 1895	201,757.28	10,031.01	43,333.12	43,770.00	114,654.16
In 1896	218,780.92	17,023.64	35,780.38	44,089.45	138,911.09
In 1897	237,576.22	18,795.30	55,591.34	43,862.47	138,142.41
In 1898	242,340.86	4,764.64	59,991.88	41,520.00	140,828.98
In 1899	253,988.40	11,647.54	55,258.95	35,228.33	163,501.12
In 1900	257,501.33	3,512.93	61,114.06	28,200.00	168,187.27
In 1901	255,075.34	.....	76,265.25	27,000.00	151,810.08
In 1902	249,302.29	.....	77,364.37	27,000.00	144,937.92
In 1903	257,579.34	8,277.05	84,478.94	27,000.00	146,100.40
In 1904	256,078.56	.....	88,735.18	27,000.00	140,343.38
In 1905	256,752.07	673.51	108,287.05	27,000.00	121,465.02
In 1906	266,124.41	9,372.34	102,726.72	27,000.00	136,397.69
In 1907	282,676.02	16,551.61	97,413.54	27,000.00	138,262.48
In 1908	292,148.33	9,472.31	96,936.04	23,000.00	172,212.29
In 1909	325,827.68	33,679.35	102,003.33	19,000.00	204,824.35
In 1910	324,155.97	.....	95,932.99	19,000.00	209,222.98
In 1911	342,836.08	18,680.11	98,501.08	19,000.00	225,335.00
In 1912	362,766.01	19,929.93	149,179.51	19,000.00	213,586.50
Total	$8,789,706.49		$2,462,609.17	$2,241,823.35	

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IN THE CONSTRUCTION OF THE HARTFORD WATER WORKS THE COST HAS BEEN APPROPRIATED TO THE VARIOUS DEPARTMENTS AS FOLLOWS:

Expended up to March in the Year	Pumping Engine Pumps and Filtration	Engine House, Lot Inlet, Pier, etc.	Storage Lot, Reservoir, Lot, Gate House and Shops	Distribution Hydrants and Gates	Service Pipe	New Works at West Hartford, Farmington, Granby and New Htfd.	Meters and Plant	Total
1856	$18,244.75	$56,047.95	$74,845.43	$182,610.75	$5,198.91	.....	.....	$336,947.79
1857	.....	25.25	.....	23,410.69	3,695.07	.....	.....	27,131.01
1858	.....	78.69	.....	3,646.68	2,545.92	.....	.....	6,271.29
1859	.....	1,213.81	23.34	6,250.15	2,328.11	.....	.....	9,815.41
1860	.....	355.79	.....	5,292.21	2,847.93	.....	.....	8,495.93
1861	.....	66.04	641.00	8,098.63	1,439.23	.....	.....	10,244.90
1862	.....	.....	.....	8,228.76	2,224.15	.....	.....	10,452.91
1863	.....	.....	.....	12,347.05	2,129.63	.....	.....	14,476.68
1864	.....	.....	.....	5,937.30	3,127.38	.....	.....	9,064.68
1865	.....	.....	.....	1,663.65	1,622.19	.....	.....	3,285.84
1866	.....	.....	.....	34,158.82	2,149.07	$205,542.52	.....	241,850.41
1867	.....	.....	.....	13,221.82	2,093.44	72,928.91	.....	88,244.17
1868	.....	.....	.....	13,140.34	4,592.21	86,449.41	.....	104,181.96
1869	.....	.....	.....	13,222.87	3,597.46	27,461.42	.....	44,281.75
1870	.....	.....	.....	26,665.06	4,776.71	13,113.64	.....	44,555.41
1871	.....	.....	8,000.00	30,528.68	4,852.14	200.00	.....	43,580.82
1872	2,880.00	.....	.....	36,229.83	5,338.45	496.79	.....	44,945.07
1873	9,600.21	.....	1,115.50	53,770.22	4,810.61	9,825.89	.....	79,121.93
1874	.....	.....	.....	21,501.80	4,806.59	111,685.20	.....	137,993.59
1875	.....	.....	.....	16,706.65	3,898.54	57,371.80	.....	77,976.99
1876	.....	.....	.....	13,141.23	2,134.99	7,629.04	.....	22,905.26
1887	.....	.....	.....	7,761.34	1,372.77	862.10	.....	9,996.21
1878	.....	.....	.....	1,875.68	1,694.87	11,544.94	.....	15,115.49
1879	.....	.....	.....	2,718.36	1,629.33	84,124.86	.....	88,472.55
1880	.....	2,450.00	.....	5,855.49	2,104.54	5,700.84	.....	16,110.87
1881	.....	.....	.....	10,685.02	2,963.30	3,194.50	.....	16,842.82
1882	.....	.....	.....	5,876.06	2,933.81	4,966.11	.....	13,775.98
1883	.....	.....	.....	9,647.71	2,267.45	26,703.39	.....	38,618.55
1884	.....	.....	.....	10,567.25	3,288.07	24,816.78	.....	38,672.10
1885	.....	.....	.....	7,183.57	2,358.67	10,514.67	.....	20,056.91
1886	.....	.....	5,208.56	5,813.58	3,030.14	22,226.65	.....	36,278.93
1887	.....	.....	.....	14,585.27	3,199.79	19,789.51	.....	37,574.57
1888	.....	.....	983.06	20,631.08	3,914.97	20,299.73	.....	45,828.84
1889	.....	.....	.....	13,755.04	3,584.52	11,621.83	.....	28,961.93
1890	.....	.....	.....	17,502.97	5,644.17	20,231.99	.....	43,379.13
1891	.....	.....	.....	15,019.58	4,509.77	45,964.88	.....	65,494.23
1892	.....	.....	.....	15,072.39	5,999.59	131,420.02	.....	152,492.00
1893	.....	.....	.....	10,302.98	6,454.13	232,622.14	.....	249,379.25
1894	.....	.....	.....	3,690.72	3,942.20	182,660.73	.....	190,293.65
1895	.....	.....	.....	18,661.91	4,920.90	59,514.99	.....	83,097.80
1896	.....	.....	.....	19,887.03	5,719.48	152,998.04	.....	178,604.55
1897	.....	.....	.....	55,131.48	6,581.34	1,478.22	.....	63,191.04
1898	.....	.....	.....	16,070.54	6,492.47	15,251.40	.....	37,814.41
1899	14,654.92	.....	.....	30,616.28	5,509.37	19,793.78	.....	70,574.35
1900	.....	.....	.....	19,473.20	4,458.04	63,001.44	$35,095.77	122,028.45
1901	1,444.98	.....	1,506.83	33,253.68	5,895.92	42,513.82	62,936.88	147,552.11
1902	.....	.....	.....	46,947.15	4,718.31	6,261.50	59,983.76	117,910.72
1903	6,459.06	.....	.....	16,648.36	5,753.11	1,771.04	12,077.39	42,708.96
1904	3,726.16	.....	.....	17,688.84	7,861.70	12,972.61	8,651.92	50,901.23
1905	.....	.....	.....	20,753.33	8,654.32	2,098.54	6,045.75	37,551.94
1906	.....	.....	.....	39,126.54	8,424.57	3,278.80	13,422.83	64,252.74
1907	.....	.....	.....	37,290.21	16,330.28	5,533.18	18,981.60	78,135.27
1908	.....	.....	2,749.73	84,887.85	11,666.36	19,549.45	11,147.37	130,000.76
1909	.....	.....	19,714.49	74,953.87	7,858.59	13,951.00	8,409.36	124,887.31
1910	4,171.61	.....	6,275.17	90,884.69	10,550.26	2,908.26	10,258.73	125,048.72
1911	20.68	.....	.....	130,565.47	15,536.55	24,579.84	8,293.20	178,995.74
1912	.....	.....	.....	113,980.77	16,503.53	64,240.82	11,344.93	206,070.05
Total	$61,202.37	$60,237.53	$121,063.11	$1,575,138.48	$284,585.92	$1,963,666.52	$266,649.49	$4,332,493.42

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SINKING FUND.

The Hartford Trust Company, *Financial Agent of the Sinking Fund of the Board of Water Commissioners, Hartford, Conn.,*

In account with said Board.

Summary from March 1, 1912, to March 1, 1913.

RECEIPTS.

Balance on hand March 1, 1912		$ 5,270.31
Premium Paid more than Par on $215,900 Bonds bought since Nov. 23, 1910, ($15,000 Hartford 3½% Bonds Jan. 1, 1926, omitted) as per Vote passed April 2, 1912, consisting of Charge	$ 551.15	
Deposit April 11, 1912,	1,983.59	2,534.74
Received income from investments as per Schedule "A"		24,242.48
Received for City of Yonkers 4½% Public Building Bonds due July 1, 1912 Pd.		500.00
Received for City of Bridgeport 4¼% Bonds due Nov. 1, 1912 Pd.		2,000.00
Received for City of Yonkers 4½% Bonds due Oct. 1, 1912 Pd.		3,750.00
Received for City of Yonkers 4½% Bonds due Oct. 1, 1912 Pd.		1,000.00
Received for City of Yonkers 4½% Bonds due Oct. 1, 1912 Pd.		1,000.00
		$40,297.53

DISBURSEMENTS.

Amount Paid below Par on $110,000 Bonds bought since Nov. 23, 1910, as per Vote passed April 2, 1912	$ 551.15
Paid for Bonds for investment from March 1, 1912 to March 1, 1913, as per Schedule "B"	5,013.89
Balance on hand March 1, 1913	34,732.49
	$40,297.53

THE HARTFORD TRUST COMPANY,

Financial Agent of the Sinking Fund of the Board of Water Commissioners, Hartford, Conn.

March 1, 1913. FRANK C. SUMNER, *Treasurer.*

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Hartford, Conn, March 19, 1913.

We hereby certify that we have examined the above statement, together with the Securities mentioned therein, and find the same to be correct, and the Bonds on hand as stated, amounting to $585,050 par value.

F. D. BERRY, *Secretary,*
The Board of Water Commissioners.

JUDSON H. ROOT,
THOMAS A. SHANNON,
Committee.

The Sinking Fund, which is held by the Hartford Trust Company as Financial Agent, has netted the Water Department during the past year, $24,242.48. The par value of the bonds in the above fund on March 1, 1913, amounted to $585,050.00, as against $588,300.00 last year—bonds have matured during the year amounting to $8,250.00, and new bonds purchased amounting to $5,000.00. The balance March 1, 1913, in our old Sinking Fund account, which is deposited in the various City Banks, amounted to $108,578.45.

Respectfully submitted,

F. D. BERRY, *Secretary.*

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REPORT OF CHIEF ENGINEER.

To the Honorable The Board of Water Commissioners of the City of Hartford,

Gentlemen—I have the honor to submit the following report of the operations of the Engineering Department of the Board of Water Commissioners for the year ending March 1, 1913.

ORGANIZATION.

The general organization of the Engineering Department remains substantially the same as last year. In addition thereto is included also the outside forces of the maintenance division. This latter division was temporarily placed under the direction of the Chief Engineer by vote of the Board on Jan. 21, 1913, reading,

> "That the Chief Engineer be and hereby is instructed to superintend and take charge of all outside work connected with the Water Board until a President is elected and qualified."

The list of employees reporting directly to the Chief Engineer is as follows:

Ralph H. Stearns, *Engineer, Designing Division.*
W. E. Johnson, *Engineer Reservoir Division.*
H. W. Horne, *Engineer, East Branch and Nepaug Divisions.*
A. Clark Hall, *Engineer, Distribution Division.*
J. E. Garratt, *Assistant Engineer, Headquarters Division.*
A. F. Allen, *Laboratory Assistant, Headquarters Division.*
D. F. Pyne, *Chief of Office, Headquarters Division.*
John Carmody, *Foreman, Main Pipe, Distribution Division.*
James Dennehy, *Foreman, Main Pipe, Distribution Division.*
Thomas Carmody, *Foreman, Service Connections, Dist. Division.*
A. A. Fox, *Foreman, Meter Inspection, Distribution Division.*
D. J. Sullivan, *Foreman, Union St. Yard, Distribution Division.*

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Mr. J. M. Urquhart has been employed since Dec. 10, 1912, as general inspector in immediate local charge of the construction work on Contract 3—Talcott Mountain Tunnel and Concrete Conduit—and Mr. W. H. Foster has continued during the year as general foreman on maintenance work at the Reservoirs.

Mr. Frederick P. Stearns has continued throughout the year as Consulting Engineer on general matters pertaining to the additional supply and special consultation has been had as occasion required with the following:

Professor H. E. Gregory — Geological Investigations, Additional Supply;
Professor J. W. Toumey—Forestry Work—West Hartford Reservoirs;
Mr. A. A. Shurtleff—Landscape Studies, West Hartford Reservoirs;
Professor A. E. Ganz—Electrolysis Investigations, Distribution System;
Mr. J. A. Newlands—Chemical and Bacteriological Work, Distribution System;
Mr. A. O. Doane—Investigation and Report on Connecticut River Pumps, Distribution System.

At the beginning of the year the engineering force in this department including both those engaged on the additional supply and the maintenance of the works numbered 23 and at the end of the year 30. The labor force including employees on both the City and West Hartford Works at the end of the year numbered 98 men.

SCOPE OF THE REPORT.

The work covered by this report has comprised all engineering work in connection with the additional supply, the supervision of the maintenance work at the West Hartford Reservoirs, survey and location work of the distribution system, such work of an engineering nature in connection with the maintenance of the system as was assigned from time to time by the President and since January 22, 1913, the general

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supervision of the distribution system. All regular meetings of the Board of Water Commissioners have been attended and reports of operations and progress have been submitted monthly and numerous special reports and recommendations have been prepared as required.

For the purpose of more clearly setting forth the work that has been done by the engineering department the many matters will be taken up under the general subdivisions of Present Works and Additional Supply. Detailed information of the operations may be found in the reports of the division engineers and in the reports of specialists appended hereto.

PRESENT WORKS.

Supply and Yield.

The present supply of water is obtained from about twelve square miles of drainage area on the easterly slope of Talcott Mountain, mostly in West Hartford and extending from New Britain into Bloomfield. There are located here six storage reservoirs in which a total of about 2,135 million gallons can be stored.

Based on data concerning the yield of similar watersheds elsewhere, it has been estimated that the West Hartford drainage area with its present storage capacity can be expected to furnish only about 7.5 million gallons per day during such periods of extreme drought as have been experienced during the past 38 years. Studies made from the actual run-off conditions in the past four years show that, with the present storage and no leakage, a rate of 9.6 million gallons per day would entirely deplete the storage, and if during this period *all* the water could have been stored—not a drop going to waste—either for leakage or flow over spillways—the average rate of withdrawal for consumption could have been only at the rate of 10.3 million gallons per day. The present watershed is almost completely developed and the leakage is of too little magnitude to warrant the expense of stopping if another supply can be secured. The above mentioned facts are clearly shown by the mass-curve diagram given on Plate 1, covering the period

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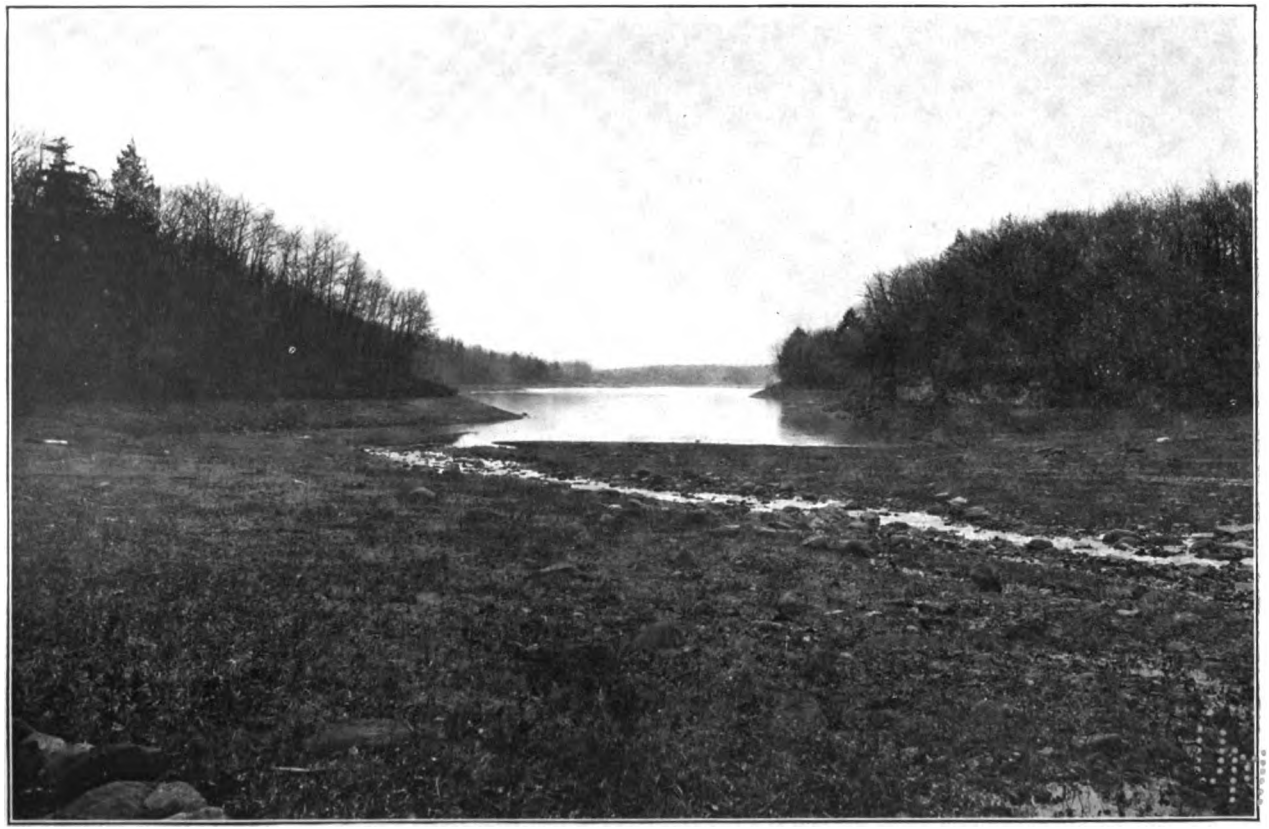

NORTH END OF RESERVOIR No. 2, LOOKING SOUTH—Surface 8.1 Feet Below High Water, December 20, 1913.]

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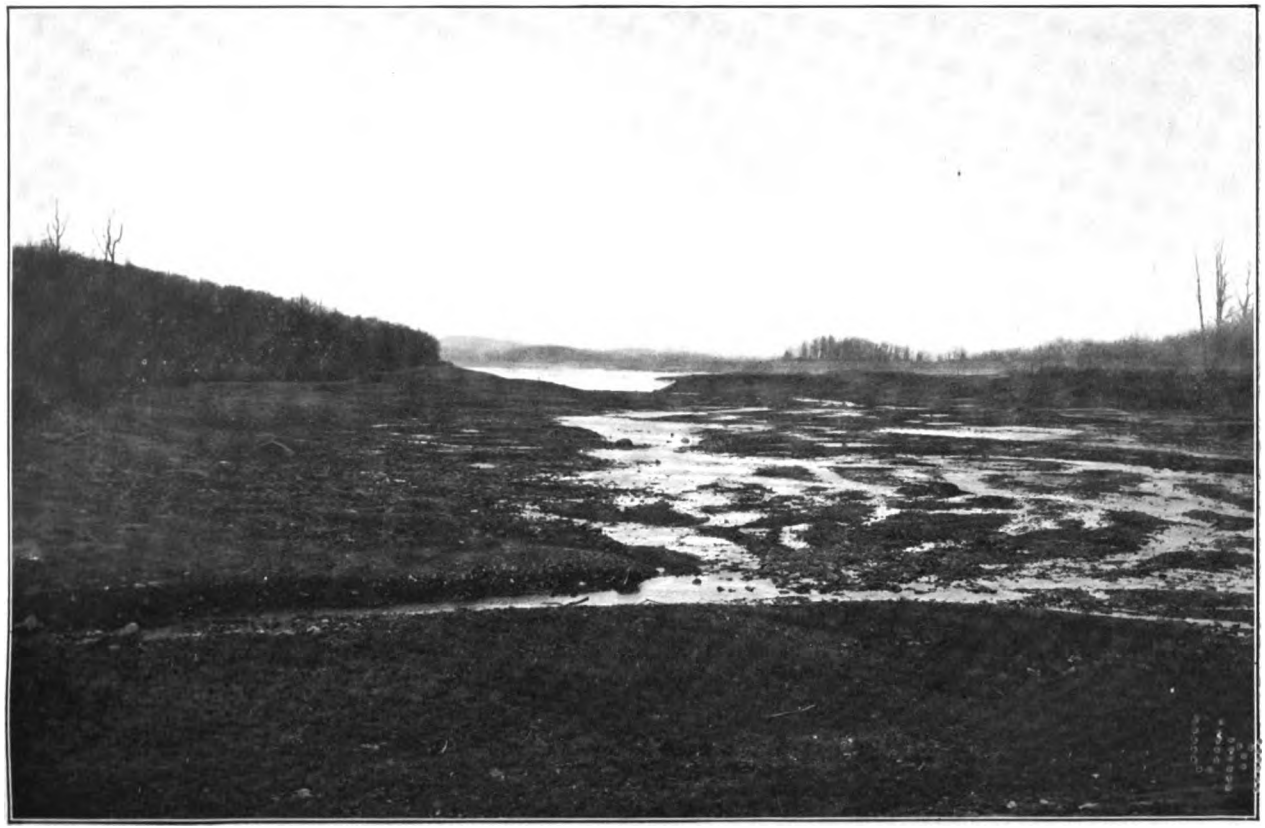

SOUTH END OF RESERVOIR No. 6, LOOKING NORTH—Surface 21.4 Feet Below High Water, December 20, 1913.

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from July 1, 1908, to March 1, 1913. The irregular wavy line represents the accumulated actual run-off month by month and the straight sloping lines represent uniform rates of draft. The properties of these curves are such that horizontal distances between tangent points of straight line and curve represent periods that the reservoirs will remain unfilled on account of the draft, while vertical distances between straight line and curve represent total reservoir depletion at any given time for the given rate of draft. In the present case it appears that with a draft at a rate of 10.3 million gallons per day the reservoirs would begin to fall about May 1, 1910, and would have remained unfilled from this time to June 1, 1912; also that the total depletion would have been 2,470 million gallons or 335 million gallons in excess of the present storage. The above draft (10.3 m. g. d.) represents the ultimate development of this watershed, as it is held by waterworks engineers to be undesirable to allow the shores of reservoirs to remain uncovered with water for long periods on account of the heavy growth of vegetation.

In 1908 the average daily draft was at a rate of 7.08 million gallons, while in 1912 it had become 8.64 million gallons. This is an average increase in the daily consumption during the intervening four years of 390,000 gallons per day each year. The increase of 1912 over 1911, however, was about 590,000 gallons per day.

From May, 1910, to June, 1912, the total rainfall was only about 2.6 inches less than the average of the Reservoir 1 records for 45 years. Based on an average increase of 390,000 gallons per day yearly, the ultimate development of the West Hartford Reservoirs would give only a supply for about 5 years under average condition of rainfall and for only about two-thirds of this time if the increase noted in the past year is maintained, while the cost of the additional storage would be greatly in excess of the advantage derived. Average conditions of rainfall cannot always prevail, and the time is now at hand when some additional supply is absolutely necessary to save the inhabitants of the City of Hartford from drinking the waters

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of the Connecticut River which, under the best conditions, can be classed as little better than sterilized sewage. During the year 1912 the amount of rainfall at Reservoir 1 was 39.16 inches which is 4.96 inches less than the average for 45 years. In only three years since 1883 has a less amount been recorded. It is of interest and importance in this connection to note that the rainfall on the Nepaug Basin for the last eight months of the year (1912) was considerably greater than that recorded at West Hartford.

Forestry.

About 5.2 square miles of area tributary to the West Hartford Reservoirs are owned by the Water Commissioners. Of this about 1,700 acres are in natural wooded condition; 845 acres in old pastures covered with sprouts and young growth; 230 acres in plantation mostly white pine; 85 acres in open upland and meadows used for growing hay; the remainder, about 435 acres, being the water surface of the reservoirs.

In 1902 a working plan for a comprehensive treatment of the watershed lands owned by the Board was made by Professor H. S. Graves of the Yale Forestry School. In the ten years that have elapsed since Professor Graves made his report, about 230 acres have been planted and a somewhat less area has been cut over for thinning. As about ten years had elapsed since Professor Graves made his report, it seemed desirable to know what was the present condition of the woodland and to obtain more recent and up-to-date information for carrying on the work, on account of the large acreage owned and the financial value to the city if development of the forest area was carried out properly. Professor J. W. Toumey, Director of the Yale Forestry School, was requested to go over the ground and submit a detailed report covering: (*a*) The present condition of the area, both the natural wooded lands and the plantations; and (*b*) the outlining of a method of procedure for future work that would attack the problem in the following order: first, Use of area as a water gathering ground; second, The desirability of saving, so far as possible, all landscape effects and preserving the beauty of the woodland drives; and third, The financial

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FORESTRY WORK NEAR RESERVOIR No. 8—CONDITION BEFORE THINNING.

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FORESTRY WORK NEAR RESERVOIR No. 3--THINNING OUT AND REMOVING DISEASED CHESTNUT.

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returns that might be expected if proper forestry methods were carried out. Professor Toumey's report appears as Appendix I of this report.

After having received this report steps were taken to ascertain what might be the value of the timber which could be cut from the areas designated by Professor Toumey, and a practical lumberman was engaged to investigate. His report gave the following amounts as his best judgment of the standing forest:

Saw Timber,.....1,360 M. B. M.
Ties,.....18,425 Ties.
Cord Wood,.....16,201 Cords.

On account of the chestnut bark disease which is working ruin in many tracts, and in order to hold the present forest in good condition and prevent deterioration of the timber from age, it is necessary that much of this wood be removed as soon as possible.

The proceeds from the sale of this timber should be ample to pay the immediate expenses of putting the watershed, grounds and roads in good condition, and with proper management the yearly income from the subsequent forest thinnings should go a long way toward paying for such upkeep as is required on account of the landscape and parkway work. This latter work may be carried on by the maintenance force of the department which is always necessary in the upkeep of distributing reservoirs. Some of the older of the white pine plantations notwithstanding some trouble from the pine tree weevil, have an excellent appearance and during the coming season it is expected to increase the plantation by about 25 acres planted to white pine, red pine, Scotch pine and spruce. During the present winter season 1912-1913 about 12 acres will have been cut over for thinnings and to remove chestnut trees infected with the bark disease. From this area it is expected to obtain from 150 to 200 cords of saleable wood, about 156 chestnut poles and about 221 chestnut posts. About 23 acres of pine plantations have been cut over, removing old fruit trees, hedgerows and single large trees which

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on account of their shade either kill or stunt the growth of young trees. From this area besides the hedgerows, about 384 old, run-out fruit trees, mostly apple, were removed, yielding about 95 cords of wood. On account of the mild winter it was possible to work the pipe laying gangs in the city very late and it was expected that the next year's work might begin quite early. As a trained gang is always more desirable than an untrained one, also because there was wood-chopping actually necessary to be done, a force of men and a foreman formerly working in city pipe laying were sent to the reservoirs and these, with the help of a few men and general foreman from the regular reservoir maintenance force, did the work. At first, on account of unfamiliarity, these men did not turn out as much work in a given time as trained choppers would have done. They soon became accustomed to the work, however, and the results showed great improvement. It is thought that the department as a whole has greatly benefitted by this plan. A trained force has been held together in good condition for the regular spring work; work has been done that was absolutely necessary if the forestry work is to be properly carried on; and finally, a force of men have received such training that, at any time hereafter, they will be available for other work of similar character that still remains to be done.

Landscape and Park Work.

Although Hartford is noted for its extensive and beautiful park system, the area about the reservoirs at West Hartford, on account of its natural topographical features and many broad sheets of water nestling among the hills, has possibilities for being made one of the most beautiful parks in the country. With this ultimate end in mind, permanent masonry bridges in keeping with the surroundings are being built on the roads at stream crossings in replacing the older wooden structures as these become worn out. As fast as funds are available, the roadways are being improved, thinnings of trees are being made along the roadsides and new plantings carried out.

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NEW BRIDGE OVER WASTE CHANNEL FROM RESERVOIR No. 3—Constructed by Maintenance Force.

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A landscape architect, Mr. A. A. Shurtleff of Boston, has been consulted on the general layout, in order that all work done in the future may be in harmony with a broad comprehensive treatment of the entire tract. About 14 miles of roadway are maintained in this reservation, and their use by both pedestrians and vehicular traffic has increased to such an extent that immediate steps should be taken to widen these roads and make them safe for travel.

Sanitation.

Generally speaking, the drainage area tributary to the reservoirs is in fairly good condition. Reservoirs Nos. 1 and 4 have the most objectionable features, due to the number of farms and dwellings located thereon. Mention of these matters may be found in the report of the Laboratory Assistant. Twice during the year it has been necessary to call on Judge Daniel A. Markham, Health Officer of Hartford County, for help in abating nuisances due to pig raising on the watershed of Reservoir No. 4. As this reservoir will probably be put out of regular service when the additional supply becomes available, it seems hardly necessary to go to the expense of purchasing additional land here to secure protection. Reservoirs 2, 3 and 5 are practically free from pollution from farms or dwellings or from possible contamination from heavy wash from highways. Except for a temporary location of a contractor's camp on the Albany Turnpike and the chance of pollution from travelers on the road itself, the watershed of Reservoir No. 6 also may be considered an excellent gathering ground from a sanitary standpoint.

Hypochlorite Plant.

In the fall of 1912, reservoir storage had been greatly depleted, and, as there was great objection to the use of Connecticut River water even for a short period, it seemed advisable to continue to draw the reservoirs even to the lowest limits if necessary. On this account mindful of the recent

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typhoid epidemics at Torrington, Conn., resulting undoubtedly from polluted matter washed from the drainage area by a heavy rain storm and carried into the distribution system without storage in the reservoirs which at that time were very low, a temporary sterilizing plant using hypochlorite of lime was installed at the effluent gate house at Reservoir No. 1. Other conditions also contributed to this decision, among which were the sanitary conditions on the watershed of Reservoirs Nos. 1 and 4, the heavily traveled highways passing closely to the reservoirs, the construction work at Talcott Mountain Tunnel on a portion of the watershed of Reservoir No. 1, and the large number of men engaged in wood chopping on the same area. Every sanitary precaution possible in both inspection and regulations has been taken with these forces, but in order that nothing should be overlooked, the sterilization plant was put in as a final line of defense at the entrance to the supply mains. Besides the plant at the gate house, another small plant of a similar kind for caring for the drainage from the tunnel work has been installed near the Hawley barn. The results from these plants are to be found in the report of the Laboratory Assistant appended hereto. The use of Hypochlorite of Lime has become almost universal when there is even the slightest suspicion of pollution. This is due to the remarkable results obtained from it as a sterilizing agent, the ease and certainty with which it can be applied by unskilled labor under general supervision, the cheapness of the article and the fact that it is entirely harmless to human health. Amounts used in excess of 0.8 part per million have in some cases caused disagreeable tastes and odors. On account of the comparatively small smount of run-off at the Hawley Brook plant and of the possibility of pollution from the labor force there employed, an amount of bleach is being used here sufficient to sterilize sewage—about the same amount as would have been necessary had Connecticut River water been used. At the effluent tower an amount varying from 0.3 to 0.6 part per million is being used.

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Swamp Drainage.

On the watersheds of several of the reservoirs are swamp areas of greater or less extent, and the water supplied to the City can be greatly improved in quality by the removal of color, taste and odor if some drainage work is carried out. A great deal can be accomplished by clearing out underbrush, straightening existing streams and digging shallow ditches to carry off quickly the water instead of allowing it to stagnate and become charged with organic matter, which, besides causing objectionable odors and colors, produces also a distinct astringent taste. During the summer months trouble has been experienced in several of the reservoirs, due to the presence of microscopic organisms such as Anabaena, Synura and others. These find their food supply in the organic matter brought in by the swamp water, and if this is cut off it will be impossible for the organisms to live. It has been found that a comparatively small percentage of swamp land on a watershed may have an important effect on the water supply and it is very much easier to prevent water troubles of this kind at the source than it is to cure the evil after a reservoir has become infected.

Main Pipe Line.

The supply of water for the City of Hartford is brought from the reservoirs in three lines of cast-iron pipes: one of 30 inches in diameter, coming in through the southerly part of the city by the way of the Boulevard and Park Street, and two lines of 20 inches in diameter each, which enter the central part of the city by the way of Farmington Avenue. In the very near future a fourth line of large diameter will be necessary probably extending through Fern Street and entering the northerly part of the city by the way of Albany Avenue.

The original main, 20 inches in diameter was laid in 1867, but portions have been relaid from time to time, so that the actual age of this line at the present time is twenty-five to thirty years. The second 20-inch main was laid in 1875, and

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is therefore about thirty-seven years old. The last supply main laid was the 30-inch, in Park Street, which was put in service in 1896, or about sixteen years ago. During the year 1912, the maximum rate of draft during 24-hour period, was 13 million gallons, while at night the rate of flow was about 4.5 million gallons per day. The drop in pressure at City Hall due to this difference in rate was about 18 pounds. An examination and study of the pipe lines showed that the coefficients of discharge for the 30-inch and north 20-inch mains were unusually low, even for the length of time they had been in service, and that the south 20-inch main was in about the condition that would be expected. With a delivery of 13.7 million gallons per day under these conditions and with an estimated delivery of 22.0 million gallons per day with the same loss of head if the pipes were in good condition, the question of cleaning the mains was carefully investigated. It was found that this process had been successfully used in many cities, and, having been practiced for many years, was not untried or novel.

On September 4, 1912, a contract was entered into with the National Water Main Cleaning Company, of New York City, and up to October 24, 1912, about 6¼ miles of 20-inch pipe had been cleaned. At this time the work was suspended on account of shortage of water in the reservoirs. The results obtained were very satisfactory, the tests of flow in the pipe line made before and after cleaning, showing an increased capacity of at least 50%. The total distance cleaned was 33,093 linear feet, and it is estimated that the total amount of water used in cleaning was 1.655 million gallons, or about one-fifth of one day's supply to the city.

Distribution Division.

The total estimated population now supplied with water from the Hartford Water Works is 126,592, an increase in ten years of 46,631 or 37%. The average daily draft for the year 1912 was at a rate of 8.64 million gallons per day, an amount nearly 20% in excess of the safe capacity of the

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present reservoir system. This condition seems a plain warning that the work on the additional supply should be pushed with vigor. The distribution system has now a total length of main pipe of 179.95 miles, and besides supplying the City of Hartford, carries water to a portion of the inhabitants in West Hartford, Wethersfield and Bloomfield. During the year 14.26 miles of main pipe has been laid in sizes from 4 inches to 24 inches in various parts of the system. Of this amount 6.28 miles were laid for the Wethersfield Fire District and 7.98 miles laid in thirty-one different streets in the city system. Of the latter amount 4.7 miles were in renewals of pipe which had become obsolete either on account of size or material, and 3.28 miles were laid in extensions to the system. A summary of amount and costs of laying main pipe during the year is given below, and detailed tabular statements are given in the appendix attached hereto.

SUMMARY OF MAIN PIPE LAID IN 1912.

	Length	*Total Cost*
Renewals	24,810	$60,629.05
Extensions	17,324	27,955.99
Wethersfield	33,143	22,095.96
Total	75.277	$110,681.00

There are now 13,105 meters in service, of which 728 have been set during the year, 3,328 meters have been taken off for testing and 5,363 meters have been tested and repaired at the shop. There are 13,278 service pipes in commission, of which 173 are unmetered these being principally on fire supply pipes and sprinkler services. Six hundred and ninety-five service connections have been installed during the year as against 604 placed in the previous period. A portion of this increase, however, was due to the construction of the Wethersfield distribution system which to date has required 169 new services. Excluding these and correcting for the number abandoned both this year and last, the actual net gain to the Hartford system is 115 service pipes less than were installed last year.

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The pipe yards of the Board on Union Street and New Park Avenue, together with the old pumping station at Riverside Park and the Garden Street Reservoir have received attention and are in as good condition as is possible. About the middle of October, 1912, on account of the meager rainfall and the consequent steady depletion of the storage in the reservoirs, it seemed advisable to make some investigation of the condition of the pumping station on the Connecticut River at Riverside Park. The three upright boilers and the two vertical Worthington pumps were thoroughly inspected and overhauled and trial runs were made with each pump. The results of the tests showed that with both pumps and boilers run to the utmost, a rate of about 4,720,000 gallons per day was all that could be obtained. The boiler capacity was found somewhat inadequate for the service and if the plant is to be depended upon for any continuous service even for a short time, some additional steam capacity will be necessary. Under the present conditions, it is probable that this plant could not be relied upon to furnish water much in excess of 4,000,000 gallons per day. Besides additional steaming capacity, for proper operation it will be necessary to install some apparatus at the intake to screen the water before it comes to the pumps, and a coffer dam will be required to prevent flooding of the plant during ordinary freshets in the river. If Connecticut River water were used, it was realized that it would be absolutely necessary to take precautions to prevent an epidemic of typhoid fever. To this end a sterilizing plant for use with hypochlorite of lime was installed at this station in 1910. This plant also was overhauled and trial runs and examinations made by Mr. J. A. Newlands, Consulting Chemist, who had supervised the original installation. As a result of a somewhat limited trial in 1910, Mr. Newlands had recommended the use of 1.5 parts of available chlorine per million. From more extended examinations carried on recently, however, it was found that not less than 2.0 parts per million would be required. Such an amount as this would be required in sewage sterilization and when used in a water supply will cause very decided odors and

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disagreeable tastes. With the proposed treatment Connecticut River water can undoubtedly be rendered sterile so far as pathogenic germs are concerned, but in order to render it wholesome further and different treatment would be required.

In order to conserve the supply of water in storage as much as possible, main gates on the supply mains have been throttled to such an extent that the pressure between 2.30 p. m. and 5.30 a. m. would remain about constant and at about the same pressure, 65 pounds per square inch at City Hall, as is the case under ordinary conditions of maximum draft in the day time. This work began November 22, 1912, and was continued until March 20, 1913, at which time the reservoirs were two-thirds full. Two employees were stationed at each of two fire engine houses near the gates and at every alarm of fire the gates on the supply mains were opened wide. It is estimated that a saving of about 250,000 gallons per day resulted.

Garden Street Reservoir when full has a surface elevation of 125 feet or about 65 feet above Main Street in front of City Hall, This elevation is sufficient to give some supply of water in case of emergency to the greater part of the city. The high lands in the vicinity of Prospect Hill, Summit Street and Blue Hills Avenue, are at too great an elevation to be reached by this water. The total content of the reservoir is something over 8,000,000 gallons. The sidewalls are of earth paved with rough sandstone blocks. The condition of these banks is such, however, that if the water is withdrawn as quickly as would be necessary if the reservoir were in use, slidings would probably take place that might seriously effect the stability of the banks. Bearing in mind the condition in January, 1912, when a break occurred in the 30-inch main and left the city practically without water for several hours, the Board voted to reconstruct the banks and replace some of the present paving with a concrete lining so that this reservoir would be in safe condition for emergency use. The order to do this work was received too late in the fall to undertake concrete construction, and it is expected to take up the work the coming spring.

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Contracts have been made for supplying cast-iron pipe and meters for the maintenance work of the Department and the canvasses of bids and other data are given in Tables XV, XVIII and XIX.

On account of several breaks in main and service pipes which were undoubtedly caused by electrolysis and also because of the considerable electric current that was known to be traveling along the water pipes in several sections of the city, it seemed advisable to have an exhaustive study made of the conditions and obtain data that would be of use in caring for the system in the future. For this work Professor A. E. Ganz, Consulting Electrical Engineer, was engaged and his report is appended hereto. As a result of his investigations, conditions have been considerably improved and the test stations which have been installed will be of great value in studying and watching the electrical conditions of the pipe lines.

For the purpose of additional fire protection an emergency supply is maintained by several manufacturing plants for the direct use of river water. These supplies are connected with the city water through a double check valve system, and are operated only in the case of fire. At this time the check valve comes into play to keep the polluted river water out of the city pipe. Frequent inspections and tests of these valves are made by employees of the Water Department and up to the present time the valves have worked satisfactorily under test conditions. Such valves as these are, however, a menace to the purity of the supply and the health of the city as there is constant danger that an automatic valve will not always seat itself properly.

Considerable trouble and expense has been caused by damaged hydrants on account of unskilled persons being allowed to operate them, especially for use in filling street watering carts. The damage consists mostly in broken stems and valves or from waste of water when the hydrant is improperly closed. It would be of great advantage if regular standpipes could be provided for this purpose and the operation of the hydrants confined to employees of the Fire and Water Departments.

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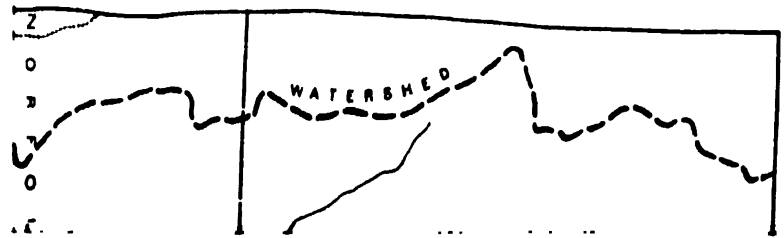

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The following table shows the length by sizes of main pipe laid in 1912:

Sizes and Length of Main Pipe Laid in 1912.

Size in inches.....	6	8	10	12	16	24
Length in feet.....	5,343	12,541	6,675	4,477	12,453	645

ADDITIONAL SUPPLY.

General Plans.

A very brief outline of the works proposed for the additional supply of Hartford is given below on account of the general interest in this work which is just now beginning. The plan contemplates a collecting and storage reservoir in the Phelps Brook and Nepaug River Valleys near Collinsville; a compensating reservoir on the East Branch of the Farmington River in New Hartford; a pipe line connecting the proposed storage reservoirs with the present reservoir system in West Hartford; a slow sand filtration plant to treat all the water passing to the city and a large size main pipe line running easterly from the filter plant and entering Hartford in the northerly part of the city.

The total drainage area tributary to the Nepaug River and Phelps Brook above the proposed dam site is about 32 square miles (Nepaug 26.8 square miles, Phelps Brook 5.2 square miles). Based on the records of rainfall and run-off covering a period of thirty-eight years on the Sudbury watersheds of the Metropolitan Water Works (Mass.), which are probably the most reliable as well as covering the longest period in this country, the minimum daily yield from the proposed reservoir in periods of drought is estimated to be at a rate of 26 million gallons per day. On the basis of the data collected from the Wachusett watershed of the same water supply system for the past sixteen years, the safe yield to be depended upon at all times would be at a rate of about 30.8 million gallons per day. With the advent of the additional supply for Hartford and the desirability of taking advantage of an increase in pressure that can be obtained, the supply

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now used from Reservoirs Nos. 1 and 4 will probably not be regularly used but kept in reserve for emergency. Such a procedure would leave available about 4.50 million gallons per day from the remainder of the present reservoir system. This amount added to the estimated yields for the Nepaug and Phelps Brook sources will give to Hartford a dependable supply of from 31 to 35 million gallons per day with a reserve of about 750 million gallons in Reservoirs Nos. 1 and 4. Excluding the reserve the daily amount available will be about four times the present daily rate of consumption.

On Plate No. 3 are shown several curves of increase in population that have been used in studies of growth and consumption. Near the bottom of the diagram is a scale of years; on the left is a scale of population to be used with the curves of estimated growth; on the right is a scale of consumption to be used with the consumption curve of the diagram; below is a set of supplementary curves giving gallons per capita based on the population curves above. The actual growth of the city from 1890 to date and its relation to the assumed curves of increase is shown to the left on lower part of the diagram. From this study it appears that in 1950 with a rate of growth such that the population will be about three and one-half times what it is at present, the amount of water estimated to be available with the new supply will be sufficient for a per capita consumption of from 73 to 96 gallons depending on the rate of growth.

Nepaug Reservoir.

The Nepaug Reservoir at a surface elevation of 485 feet above sea level will have an area of 851 acres, a total capacity of 9,850 million gallons and, with the outlet pipe at elevation 440, an available capacity of 8,250 million gallons. The latter figure is nearly four times the total amount of storage in the reservoirs at West Hartford and the area of the proposed reservoir is about double that of all of the present reservoirs.

To make the Nepaug Reservoir it is necessary to construct two dams of considerable size to close the gorges in

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which run the present streams and to construct a dike along a low saddle in the dividing ridge between the Nepaug and Farmington River basins.

The structure on the Nepaug River will be classed as a high masonry dam. Its height above ground will be about 110 feet and top length about 650 feet. It is expected that this dam will be of so-called cyclopean masonry, large rocks being embedded in the interior and the exterior substantially faced to give an attractive appearance. It will probably be of gravity section arched upstream on a radius of 400 feet. This feature will give additional strength besides lending a pleasing architectural effect to the whole structure.

The dam at Phelps Brook will probably be of earth with a well compacted hearting of impervious material. This dam will have a height above ground of about 67 feet and its total top length will be about 1,180 feet.

Pipe Line and Conduit.

To bring the water from the Nepaug Reservoir to the West Hartford Reservoirs, it is planned to construct a pipe line of steel or cast iron, 42 or 44 inches in diameter, depending upon the material selected, about 39,700 ft. (7.5 miles) long; two sections of grade masonry conduit 5 feet by 4.75 feet, 3,600 feet long; a concrete lined tunnel 6 feet by 5.33 feet, 2,400 feet long, and a reinforced concrete pressure conduit, 4 feet in diameter and 4,600 feet long.

The pipe line will have a capacity of 30 million gallons per day; the grade conduit a capacity of 40 million gallons per day under ordinary conditions of flow and an ultimate capacity under pressure, of 69 million gallons per day; the tunnel a normal capacity of 59 million gallons per day and under pressure, a capacity equal to that of the grade conduit; the pressure conduit a capacity of 60 million gallons per day to the filters and 40 million gallons per day to Reservoir 5, the proposed equalizing basin at the easterly end of the line. The conduits and tunnel which will last indefinitely have been given such a size that without alteration the flow of an

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additional pipe carrying 30 million gallons per day could be discharged through them, should such additional supply be required in the future. Notwithstanding the size the construction of the concrete conduit is not expected to increase the cost of this section above what it would have cost had a steel pipe line been used. Sections of the conduit and tunnel are shown on Plate No. 6, and Diagram No. 7 shows their hydraulic elements.

Filters.

In order that the water delivered to the City shall be entirely satisfactory as to quality as well as quantity, it is planned ultimately to filter the entire supply. For the present, works will be provided for only about 15 million gallons per day. For this purpose six beds of one-half acre each are planned, having a capacity of 5 million gallons per day per acre. The filtered water will pass to a pure water reservoir having a capacity of about 5 million gallons and from there be drawn for the city supply.

Compensating Reservoir.

By diverting the waters of the Nepaug River and Phelps Brook, the flow of the Farmington River is somewhat affected at and below Collinsville. On this portion of the river there are nine separate developments with a total fall of about 168 feet. Depending upon the location of the power, the area diverted from the water supply of the City of Hartford ranges from 5.5 to 8.6% of the area now tributary. The average diversion is about 6.3% and the reduction of total power in the stream would be a similar figure. Actually, however, the loss of power is very much less than this as during the major portion of the year the flow of the river, even excluding that from the proposed diverted area, is more than sufficient to drive all of the wheels now in position or that would probably be installed hereafter, with economical development in view. Provious studies of this question have indicated that the probable loss of power to the Farmington River by reason of the proposed diversion will be about 3% when all the water from the

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Nepaug River and Phelps Brook sources is required by the City of Hartford and much less than this for many years to come. To make good this loss and in lieu of money compensation which was objected to by a majority of the mill owners, it is proposed to build a compensating reservoir near Richards Corner on the East Branch of the Farmington River in New Hartford and there store the portions of the flood waters of the winter and spring that now go to waste. In periods of low water in the river and at such times as the loss of flow would be appreciable by reason of the withdrawal for the City of Hartford, the stored waters will be let flow down the river and so compensate in kind for the diverted portion. This reservoir will have a capacity of at least 3,000 million gallons and a surface area of 437 acres at elevation 423. The valley will be closed by a dam 70 feet in height above the present bed of the stream. The length of the dam will be 860 feet at the top. It will be constructed of earth with an impervious hearting of selected material.

Surveys.

Preliminary to actual construction it has been necessary to make many surveys, plans and studies of the sites of the proposed work. An outline of the designs and studies will be found in the report of the Designing Engineer, Appendix A. Previous to 1912 some survey work had been done which was of a reconnoissance character, undertaken for the sole purpose of procuring data for a preliminary report as to the feasibility of the project. When it was definitely decided to undertake the work much more extensive and accurate knowledge was required, and, as had been expected, more elaborate and detailed surveys were necessary. Besides the survey work required for actual construction purposes, many land surveys of an accurate character for use in purchase or for condemnation have been necessary. These surveys have been made by the Reservoir and East Branch Divisions and details will be found in the reports of the Division Engineers appended hereto. On the pipe line thirty-eight separate parcels have

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been surveyed; on the East Branch forty-seven parcels, and on the Nepaug Reservoir, forty-one parcels, a total of 126 separate land plans. Besides this, location surveys have been made for 10 miles of highway to be relocated in connection with the reservoir work and detailed topography has been necessary on the shore lines of both reservoirs sites. In order to accurately tie together the whole system and eliminate any chance for error in measurement that might cause considerable annoyance and expense later, a triangulation system has been laid out extending from Hartford to the East Branch Reservoir and connecting up the entire work. The base of the survey is a line, connecting the United States Geological Survey Station "Johnny Cake" and the United States Coast and Geodetic Survey Triangulation Station "Talcott." The outline of this system is shown on Plate No. 7. On account of the difficulties experienced in acquiring land and undertaking actual construction work, the engineering force has not been increased as would otherwise have been necessary, and a few men have been able to do that which otherwise would have required a larger force in a shorter time. On the whole it is believed that this has been advantageous in both economy and efficiency.

River Flow and Rainfall.

Although the plan to take water from the Nepaug River had been considered for several years, no systematic investigation had been made of the quantity of water flowing in the stream or of the locations where it was proposed to construct the dams. Early in 1912 gaging stations for measuring stream flow and rainfall stations for observing precipitation on the watersheds under consideration were established and have been maintained constantly since. Such information is absolutely necessary for carrying out the work and much data has been accumulated which will be of invaluable assistance in many ways hereafter. A detailed account of the operation of the rainfall and gaging stations will be found in the report of the Assistant Engineer attached hereto as Appendix B.

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MEASURING WEIR ON NEPAUG RIVER HARTFORD WATER WORKS.
0.7 Mile Below Proposed Dam Site. April 18, 1913. 62 Million Gallons Per Day Flowing.

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In connection with this work there are maintained five rainfall stations having United States Standard Weather Bureau gages, and ten river stations where the flow of the river is measured either by weir or current meters.

The gagings on the Nepaug River and Phelps Brook show a range, maximum to minimum 24-hour rate, of from 344 to 377.7 million gallons per day.

In order to get information which will later be of value in designing the filtration plant, color determinations have been carried on for a considerable portion of the year, and percolation and other investigations have been under way for the purpose of studying the materials available for earth dam building. Mention of this work will be found in the report of the Laboratory Assistant attached hereto as Appendix C.

Borings.

In order to obtain information concerning underground conditions and foundations at the sites where it was proposed to construct the tunnel and erect the reservoir dams, some exploration was made by means of wash borings and diamond drills. A description of the methods employed and the results accomplished will be found in the report of the Division Engineer in charge of the work on the Nepaug and East Branch Divisions attached hereto as Appendix E. This work was done under a contract made with the Sprague & Henwood Company, Scranton, Pa., who began work March 18, 1912, and finished August 20, 1912. The total quantities under this contract were:

Item.	*Total Quantities.*	*Contract Price.*	*Amount.*
1—Sinking casing and core drilling for cores less than 2 inches in diameter	2,330.1 ft.	$4.00	$9,320.40
2—Sinking casing and core drilling for cores 2 inches or larger in diameter	1,059.6 ft.	5.50	5,927.80
3—Casing left in place	4,705 lbs.	.05½	258.78
4—Extra work digging test pits, and testing porosity of rock			948.97
Total			$16,355.95

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Observations have been continued since the work stopped in many of the bore holes for the purpose of getting information concerning conditions of the underground water that might later have an influence in laying out and constructing the proposed work.

Professor H. E. Gregory, of the Yale Geological Department, was consulted concerning the general interpretation of the data obtained from the borings with reference to its geological signification and his reports on the several locations are attached hereto as Appendix G.

Construction Work.

Actual construction work on the additional water supply for Hartford was begun with an award to the Stobaugh Contracting Company of the contract for construction of the Talcott Mountain Tunnel and Concrete Conduit. Proposals for doing this work were opened on November 21, 1912. Nine bids were received, ranging from $120,000 to $173,400 and the contract was awarded to the lowest bidder. The contractor began work December 5, 1912, and has continued since in two openings, one on each side of the mountain. The plan has been to work into the tunnel portals during the winter and spring, leaving the shallow portion of the earth cutting to be done later. A camp was established on the west side of the mountain and off the drainage area of the present reservoirs. The power plant for operating the drills and stone crusher is located on the east side of the ridge. Excavation work was at first undertaken by a steam shovel in each location with the material removed in teams. On account of the mild winter the ground did not become sufficiently hard to support the heavy teams, and considerable difficulty has been experienced in transportation of the spoil. Up to March 1, 1913, the average daily force employed was thirty-one men, one single team and four double teams. Nine thousand eight hundred and forty-eight cubic yards of earth and 283 cubic yards of rock had been removed.

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Among many others, acknowledgments for favors received and courtesies extended are particularly due to the following gentlemen:

Mr. William Hill, President of the Collins Company, for rainfall and flood records and for permission to use the measuring weir on the Nepaug River.

Mr. S. G. Dunham, President, and Mr. E. F. Lawton, General Manager, of the Hartford Electric Light Company, for records of runoff and permission to use the Electric Power Station at Tariffville for stream measurement purposes.

Messrs. C. E. and T. Belknap Beach for the generosity shown in allowing the use of their land in Farmington for the construction of the conduit and tunnel, free of all expense to the Board, also for many other courtesies extended during the progress of the work.

Accompanying this report are the following appendices, tables and plates:

APPENDICES.

A—Report of Designing Engineer for year ending March 1, 1913.

B—Report of Assistant Engineer, Headquarters Division, for year ending March 1, 1913.

C—Report of Laboratory Assistant for year ending March 1, 1913.

D—Report of Division Engineer, Reservoir Division, for year ending March 1, 1913.

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Respectfully submitted,

CALEB MILLS SAVILLE,
Chief Engineer.

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REPORT OF THE DESIGNING ENGINEER.
For the Year Ending March 1, 1913.

C. M. Saville, Chief Engineer:

Dear Sir—I beg to submit the following report of the designing division organization and work for the year ending March 1, 1913:

Organization—The designing division was completed to its present quota of three men on April 24, 1912, Mr. A. R. Brown, draftsman, having reported on that date, and Mr. R. E. Wise having reported on March 11, 1912. During the summer Mr. Brown was absent on leave for about four months and Mr. P. A. Cushman was temporarily employed in his place for about three months. Division Engineer Horne and Mr. G. W. Penfield of the East Branch Division assisted this division at various times amounting to about one and one-half months in all.

The work of this division consisted chiefly in making studies and preparing construction drawings and specifications for the proposed new supply from Nepaug, and for the proposed compensating reservoir on the East Branch of the Farmington River. Work connected with the Distribution Division where requiring designs or special computations was also handled by this division.

East Branch Reservoir—Five possible sites for this reservoir were marked out on the United States Geological survey maps, and their availability considered. Successive studies and estimates for dams at Richards Corner and Pine Grove were made, but only general drawings showing the location, and main features of the dam and appurtenances were completed. The underground conditions at both sites were very carefully studied with the results of the borings and soil analyses at hand, and the probable leakage estimated therefrom. The designs were carried to a point where detailing could be begun at once should the dam be placed at either of the above locations.

The amount of damages to water powers and the basis of the quantity of compensating water allowed were reviewed.

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New Highways—A form of contract and specifications for new highways about the reservoir was completed and the necessary detail drawings were made. A plan and profile of the proposed new roads for submission to the interested towns was prepared here.

Nepaug Reservoir—Studies and estimates were made for the development of the Nepaug Reservoir, as follows:

Scheme 1—Building Nepaug and Phelps Brook dams for reservoir flow line at 485.

Scheme 2—Same for reservoir flow line at 460.

Scheme 3—Building Nepaug Dam for flow line at 460, connecting pipe to Nepaug and deferring Phelps Brook Dam.

Scheme 4—Same, diverting Nepaug water into Phelps Brook, where a small diverting dike would be built with connection to pipe.

The original scheme, No. 1, for full development was adopted, as there was but little saving in Schemes 2 and 3. Scheme 4, although cheaper, did not give the advantage of drawing the stored water directly from the reservoir.

A curved masonry dam was determined on, and the location selected, and study drawings for the cross section and spillway have been made. At Phelps Brook an earth dam has been located using the cross section adopted for the East Branch dam, and studies have been made on the headworks of the pipe line. The capacity, yield and cost of this reservoir have been estimated for the different developments.

Nepaug Pipe Line—Studies and estimates were made for unlined steel pipe, steel pipe with mortar lining and concrete covering, cast-iron pipe, wood stave pipe, and a combination of these with concrete conduit at grade for a portion of the way. Also estimates were made of the economical size of pipe, the location, and whether the intakes should be placed at Nepaug or Phelps Brook.

It was decided to ask for alternate bids for 42-inch cast iron and 42-inch or 44-inch steel pipe to Phelps Brook, two sections of the steel pipe under the Farmington

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River to be of 46-inch diameter with a mortar lining 2 inches thick. Specifications have been drawn up in accordance with this decision, and are now undergoing their final revision. The contract drawings are about one-half completed, there being nineteen in all.

Talcott Mountain Tunnel and Concrete Conduit—The tunnel, 2,400 feet long, was located close to the line previously laid out, and the finished section of the concrete lining was made 6 feet 3 inches high by 5 feet 4 inches wide. This was about the minimum practicable size and furnished as excess carrying capacity over the pipe line and over the supply that Nepaug Reservoir would furnish. Sections of concrete conduit extending both ways for a total of 3,600 feet were substituted for steel pipe on account of larger carrying capacities, and permanence. Specifications, estimates of quantities, and drawings (three in number) were completed on about November 1, 1912.

Filters and Connections—A location for the filters was selected, on and west of what was the Hawley property, and a preliminary layout made, after estimates of three available sites had been made. It is proposed to use a 48-inch reinforced concrete conduit from the end of Contract 3 to the filters and to Reservoir 5, and drawings and estimates were made for such a conduit and a terminal chamber at Reservoir 5. The relative costs of converting this reservoir into a coagulating basin, or of building a new one just below the end of Contract 3, were estimated, and provision was made to connect either should coagulation be found necessary.

West Hartford Reservoirs—Drawings of three culverts were prepared together with a first draft of a short specification. Diagrams showing areas and capacities for each reservoir, and tabulations of the actual rainfall and run-off each month for the past five years were made.

Distribution System—Estimates, drawings and specifications were partially prepared for the improvement of the Garden Street Reservoir. A design was made for a sheet piling bulkhead and concrete floor for the Connecticut River pumping station; a form of contract and specifications for

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cast-iron pipe was drawn up, and work done on valve and meter specifications. Also computations were made on capacities and pressures in the mains.

Land Taking Plans—Land taking plans for the East Branch Reservoir, Nepaug pipe line and conduit, and West Hartford Reservoirs were revised by this department, and descriptions of some fifty parcels were written or revised.

Maps, Diagrams, Etc.—Drafting work was done on general maps, working tables, and diagrams not chargeable to any particular part of the work.

The distribution of time between the various parts of the work, including the division of the general work among the various items was about as follows:

Division of Work.	*Time Spent on Work.* Per Cent.	Months.
East Branch Reservoir	26½	3.10
East Branch Highways	5	.60
Nepaug Reservoir, Contract 5	9	1.10
Nepaug Pipe Line, Contract 4	30	3.60
Tunnel and Conduit, Contract 3	18	2.20
Filters and Conduit, Contract 2	2	.25
West Hartford Reservoirs	4	.50
Distribution System	6	.75
	100	12.00

Respectfully submitted,

(Signed) R. H. STEARNS,
Designing Engineer.

ANNUAL REPORT OF THE ASSISTANT ENGINEER HEADQUARTERS DIVISION,

For Year Ending March 1, 1913.

C. M. Saville, Chief Engineer,

Dear Sir—Following is a report of the hydrographic work for the year ending March 1, 1913:

Introduction—The measurement of the discharge of the Nepaug River, Phelps Brook, the Farmington River and

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the East Branch which are vitally connected with the City of Hartford's proposed additional supply, together with the precipitation at several points on their watersheds was begun during the months of March, April and May, 1912. Since then continuous records of these important features of the new supply have been kept with considerable care. In the carrying on of this work ten gaging stations have been established at four of which automatic water-stage registers are used, and five rain gages have been set up. At all of these daily records of either gage heights or precipitation are kept by paid observers.

Description of Rivers—The Farmington River is a tributary of the Connecticut River about 75 miles long. It has its source in Becket, Mass., and flows in a general south-easterly direction through Sandisfield, Mass., Colebrook, Barkhamsted and New Hartford, Conn., to Farmington, Conn. There it is turned by the Talcott Mountains and flows almost due north through Simsbury until it breaks through the mountains at Tariffville and flows again south-easterly and into the Connecticut River at Windsor, Conn. The drainage area of the Farmington is about 590 square miles. The power of the stream is quite considerably developed but the storage at each development is very small except at Greenwood Pond, New Hartford. At the headwaters there is Otis Pond, a storage reservoir of considerable capacity, which is used to control the flow of the river. The Farmington is subject to very sudden rises and to considerable floods. Above Farmington, Conn., it is a swift rough stream with a fall of about 30 feet per mile but below that point the maximum rate of fall is only 10 feet per mile.

The east branch of the Farmington River enters the latter about one mile and a half below New Hartford, Conn. It is about 20 miles long and drains a narrow watershed of 61.2 square miles in the towns of Barkhamsted and Hartland, Conn., and Granville, Mass. Its side walls are very steep but well wooded and its tributaries, with the exception of Beaver Brook, very small. It has a fall of about 50 feet to

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the mile and is everywhere swift and more or less rough bottomed. It is a very flashy stream and in dry weather goes very low.

The Nepaug River is a shallow, rough bottomed, swift flowing branch of the Farmington River, draining a watershed of about 27 square miles, almost wholly in the town of New Hartford, Conn. It enters the Farmington River one mile above Collinsville, is about 10 miles long and has an average drop of 50 feet to the mile. At one time there was a small water power development near its junction with the Farmington River but this now is completely demolished.

Phelps Brook is a small tributary of the Farmington River draining 5.2 square miles of watershed in the towns of Burlington and New Hartford, Conn., and entering the Farmington River about two and one half miles below the Nepaug. It is about five miles long. The first half mile from the mouth of the stream is very steep and rocky with several falls; the next mile is through a flat meadow underlaid with sand and gravel; and above this it is steep, rough and rapid. At one time there were several small water power developments on the lower part of this stream but these are now abandoned.

GAGING STATIONS.

Gaging Stations and Drainage Areas—Of the gaging stations which have been established, three are on the main Farmington River, three on the East Branch, three on the Nepaug River and one on Phelps Brook. On the Farmington there are the Farmington River at New Hartford Station with a drainage area of 231 square miles; the Farmington River at Farmington Station with a drainage area of 449 square miles and the Farmington River at Tariffville Station with a drainage area of 572 square miles. On the East Branch there are the Upper East Branch Station with a drainage area of 47.4 square miles; the Beaver Brook Station with a drainage area of 4.7 square miles and the Lower East Branch Station with a drainage area of 62.2 square miles. On the Nepaug there are the Upper Nepaug Station with a drainage

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of 23.0 square miles; the Nepaug at O'Neil's Station with a drainage area of 26.0 square miles and the Lower Nepaug Station with a drainage area of 26.8 square miles. The Phelps Brook Station has a drainage area of 5.2 square miles.

Farmington River at New Hartford, Conn., Station—The Farmington River at New Hartford Station was established September 28, 1912. It is at the highway bridge in the center of the town of New Hartford. A staff gage is bolted to the downstream face of the granite centre pier of this bridge and a Bristol recording gage also installed here. Gagings are made from the bridge. There is a power development, the Greenwood Company, only a short distance above this station, so an automatic gage was necessary. Large granite blocks near the center pier and a shallow west channel cause the current in the main east channel to be at a considerable angle to the normal. Slight backwater may be caused by a diverting dam below. No ice forms at this station. Conditions are not favorable for a good station here. Seven discharge measurements were made during the year which determined a fair station rating curve.

Farmington River at Farmington, Conn., Station—The Farmington River at Farmington Station was established May 20, 1912. It is located at the steel highway bridge at Farmington on the road between Farmington and Unionville. The staff gage is fastened to a tree about 100 feet upstream from the bridge and on the south bank. A Frieze automatic water stage register is also located at this same place. Gagings are made from the bridge and at very low stages by wading at a naturally contracted section a few hundred feet downstream. Power developments above make the automatic gage necessary. The datum of the gage was lowered 2.0 feet, June 17, 1912, to cover low stages. The stream bed was originally quite rough but the large stones were cleared from the measuring section so that now it is very good. Only a little ice forms at the station and the results are very little affected. Nine discharge measurements were made during the year and a very good station rating curve was determined.

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Farmington River at Tariffville Station—The Farmington River Station at Tariffville is at the plant of the Hartford Electric Light Company. Records have been kept since 1900, and to these records the Hartford Electric Light Company have very kindly given access. Measurements were made in the tail race of the plant to get the discharge of the wheels at different gate openings.

Upper East Branch Station—The Upper East Branch Station was established March 22, 1912. It is at the highway bridge about a quarter of a mile west of Barkhamsted Center, Conn., and has a drainage area of 47.4 square miles. The staff gage is fastened to the wooden center support of this bridge. Gagings are made from a cable about 700 feet above the gage. Low stages are gaged by wading at a naturally contracted section 200 feet below the cable site. During the winter months no ice forms at the station but ice below may affect the gage height. Thirteen discharge measurements were made during the year which determined a very good station rating curve.

Beaver Brook Station—The Beaver Brook Station was established April 25, 1912. It is located at the bridge across the brook on the road between Pleasant Valley and Barkhamsted and about a mile from Barkhamsted. A staff gage is fastened to the south abutment on the downstream side of this bridge and this gage is read daily. Gagings are made at ordinary stages at a rough log bridge about a quarter of a mile downstream from here where there is a second gage. The relation between these two gages is kept. Low flow gagings are made just below the bridge by wading. Ice affects this station very little because of swift water and a fall just below the station. Nine discharge measurements were made during the year which determined a very good station rating curve.

Lower East Branch Station—The Lower East Branch Station was established March 14, 1912, A staff gage is attached to a tree on the west bank of the river about 1,800 feet above the iron bridge over the East Branch at Richard's

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Corner. Almost 100 feet below this staff gage is a Frieze automatic water stage register. Gagings are made from a cable about 200 feet above the staff gage. The bed of the stream was originally quite rough but all the larger stones have been removed at the cable site and the section made very good for meter measurements. The low flows of the summer months are measured at a temporary, artificially, contracted section a few feet upstream from the cable. Thirty-seven discharge measurements were made during the year which determined a very excellent station rating curve.

Upper Nepaug Stations—The Upper Nepaug Station was established March 26, 1913. It is at the bridge about three miles west of Collinsville, Conn., and one-half mile above the proposed flow line of the Nepaug Reservoir at the point that the main road from Collinsville to Nepaug Village crosses the Nepaug River. A staff gage is fastened to the bridge on the downstream side in the middle of west channel. Only one brook of any size enters the Nepaug between here and the reservoir flow line. At ordinary stages there is an east channel with very good velocity and a west one with dead water. At flood stages there are these two and sometimes a third channel with high velocities. Low flow gagings are made by wading at a naturally contracted section about 100 feet below the station. Winter discharges are quite considerably affected by ice. Thirteen discharge measurements were made during the year which determined a good station rating curve.

Nepaug at O'Neil's Station—The Nepaug Station at O'Neil's Bridge was established March 20, 1912. It is located on the bridge across the Nepaug River about one mile above its junction with the Farmington and one-half mile above the proposed Nepaug dam site. This location is practically in the middle of the proposed Nepaug Reservoir. A staff gage is fastened to the upstream side of the westerly abutment of the bridge from which gagings are made. A Frieze automatic water-stage register was installed here April 18, 1912, but was removed August 1, 1912, to be used at the lower

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station. It was the intention at first to have this the principal station on the Nepaug and hence the automatic gage but on the rebuilding of the Collins Company's weir at the lower station, that was made the most important one. Originally the stream bed at the station was quite rough but on June 19, 1912, this was cleared of all stones of any considerable size and this caused a slight change in relation between discharge and gage heights. At extreme floods all the water does not pass under the bridge here. No ice cover forms during the winter months, although there may be slight effects from ice forming a short distance below the station. Conditions make a good determination of discharge possible. Twenty-one discharge measurements were made during the year which determined a very good station rating curve.

Lower Nepaug Station—The Lower Nepaug Station was established March 26, 1912. It is practically at the mouth of the Nepaug River and below the proposed dam site. A staff gage was put in, braced from the bank, about 20 feet above the highway bridge. Measurements were made from this bridge, but it was found that backwater from the Farmington River affected this station. About 500 feet upstream from this bridge was the ruins of a weir, once used by the Collins Company of Collinsville, Conn., but abandoned. During the last few days of July, 1912, this weir was rebuilt, with the permission of the Collins Company, and August 1, 1912, the automatic gage from O'Neil's was set up and records from this station started. The bridge section was abandoned but the relation between the weir gage and the bridge gage was obtained. The weir is sharp crested, 24 feet long, with two end contractions, and with a velocity of approach. This weir is large enough to pass flows up to 235 second-feet. To provide for floods another gage was put in on January 23, 1913, about 300 feet above the weir. High water gagings are made at the original bridge section and referred to this uppermost gage. February 25, 1913, the gage just above the bridge was cut out of the ice and removed, to save it. Ice does not affect the weir records at this station practically at all. The zero of the weir gage is set 0.008 feet

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below the crest of the weir so that all weir heads must be diminished by 0.008 feet. Five discharge measurements were made during the year at the bridge section before it was abandoned and they determined a curve which gave a fair indication of daily discharge.

Phelps' Brook Station—The Phelps' Brook Station was established March 20, 1912, at the bridge over the brook on an old abandoned road about one-quarter of a mile above the proposed dam site. A staff gage is fastened to the upstream side of the bridge and a rough log bridge built about 50 feet above it from which to gage at ordinary stages. Here the brook flows through a wide meadow. At high stages the meadow is flowed over but all the water passes under the bridge and there the high water gagings are made. During the summer months the low flows were measured with a weir. July 11, 1912, a 2-foot Cippoletti weir was put in about 220 feet above the gaging station. This worked until August 5, 1912, when it was undermined. August 8, 1912, a 3-foot Cippoletti weir was built more substantially than the first. This was washed out October 23, 1912, and, as it had served its purpose, it was removed completely for the season but will be replaced in time to measure the low flows of the coming summer. Heavy ice cover forms here during the cold winter months. Nineteen discharge measurements were made during the year which, with the weir discharges, made possible the very accurate determination of a station rating curve.

Precipitation Stations—Five precipitation stations were established during the year and are regularly maintained by paid observers. Three of these are in the East Branch drainage basin and two in the Nepaug basin. In the Farmington River drainage area records of precipitation are kept at Otis Reservoir by the Collins Company of Collinsville, Conn., and at Collinsville by Mr. G. J. Case. Both records are available.

East Branch—Precipitation on the East Branch watershed is measured at West Granville, Mass., at Hartland Hollow, Conn., and at New Hartford, Conn. United States Weather Bureau standard rain gages are used at all stations.

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The West Granville Station was established June 26, 1912. It is at the head waters of the East Branch and at an elevation of about 1,200 feet above sea level.

The Hartland Hollow Station was established June 26, 1912, and is situated in the bottom of a very narrow part of the East Branch Valley and nearly in the centre of the watershed. It is at an elevation of about 500 feet above sea level. Precipitation at this station seems to be considerably less than at the other stations due perhaps to the high ridges on either side of this narrow valley, deflecting storms.

The New Hartford Station is about two and one-half miles above the point of union of the East Branch and the Farmington Rivers and at an elevation of about 400 feet above sea level. It was established on April 3, 1912.

Nepaug—Precipitation on the Nepaug watershed is measured at Bakersville, Conn., and at Barnes Station, about three miles west of Collinsville, Conn. United States Weather Bureau standard rain gages are used at both stations.

The Bakersville Station was established April 12, 1912. It is located well up in the Nepaug drainage basin at an elevation of about 700 feet above sea level.

The Barnes Station was established April 4, 1912, and is just above the upper end of the Nepaug Reservoir and at an elevation of 550 feet above sea level.

Summary of Results of Precipitation and Run-off Measurements:

The daily gage heights and discharges of the various stations are summarized in the folio which has been made for your reference.

To give a rough idea of the precipitation on and run-off from the various watersheds connected with the City of Hartford's supply, present and proposed, the following is offered.

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Precipitation for eight months, July, 1912, to February, 1913, inclusive.

East Branch:	
Hartland Station,	24.10 inches
West Granville Station,	27.90 inches
New Hartford Station,	27.67 inches
Mean,	26.56 inches
Nepaug:	
Bakersville Station,	27.47 inches
Barnes Station,	28.85 inches
Mean,	28.16 inches
West Hartford Reservoirs:	
Reservoir No. 1,	27.86 inches
Reservoir No. 4,	20.55 inches
Reservoir No. 6,	23.60 inches
Mean,	22.34 inches

It appears that the precipitation on the watersheds of the new supply is considerably greater than on the present.

Run-off for eleven months, April, 1912, to February, 1913, inclusive:

East Branch, lower,	Mean—1.69 sec. ft. per sq. mile
Farmington River at Tariffville,	Mean—1.64 sec. ft. per sq. mile
Nepaug,	Mead—1.43 sec. ft. per sq. mile
Phelps Brook,	Mean—1.38 sec. ft. per sq. mile
West Hartford Reservoirs,	Mean—1.01 sec. ft. per sq. mile

The maximum precipitation recorded since the establishment of the various stations was on October 23 and 24, 1912. At the New Hartford Station on the East Branch, 3.82 inches fell in twenty-eight hours and at Bakersville on the Nepaug, 3.66 inches fell in twenty-six hours.

The maximum and minimum run-off so far recorded are as follows in second-feet per square mile of watershed:

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Stream	*Max. 24 hr.*	*Max. rate*	*Min. rate*
Phelps Brook	19.0	25.6	0.25
Nepaug	17.9	30.8	0.15
East Branch	19.6	25.0	0.12
Farmington River at Tariffville	12.5	14.3	0.27

The maximum occurred during March, 1912, and the minimum during October, 1912. The effect of storage is shown on the minimum rate at Tariffville.

Respectfully submitted,

(Signed) J. E. GARRATT,
Assistant Engineer, Headquarters Division.

REPORT OF LABORATORY ASSISTANT

For the Year Ending March 1, 1913.

March 14, 1913.

Mr. C. M. Saville, Chief Engineer,

Dear Sir—I have the following to submit as a report of my work for the six months ending March 1, 1913.

Introduction—My work has been in connection with both the proposed and the present supplies but the majority of the time has been spent in connection with the latter. The work has been along various lines and may best be reported according to these different lines.

Colors of the Waters—Field determinations have been made frequently of the color of the water in the streams of the proposed supply and of the water in the reservoirs of the present supply. Large variations in the color of the water have been noticed in the Nepaug River and the East Branch of the Farmington River. The lowest colors were found in the first part of October and the highest during the first of November. These same conditions were found in the water of the present reservoirs but the variations in each reservoir

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were less marked than in the Nepaug and Farmington Rivers. Reservoir No. 4, particularly the brooks flowing into it, have been very highly colored during January and February, while Reservoir No. 2 has remained quite clear at all times. The color of the water coming to the city has varied slightly, depending upon which of the reservoirs was being drawn from, but at all times there has been a slight but noticeable color.

Percolation Tests—Some soils from the proposed dam site near Richards' Corner, New Hartford, have been tested at the Union Street yard for porosity in order to determine their suitability for building an earthen dam. The following results have been obtained:

Material	*From Pit No.*	*Rate of percolation on third day in gallons per acre per day.*
Dry sand	19	498,000
Wet sand	19	181,000
Wet loam	15	45,000
Wet loam	12	3,000

Corrosion of Iron and Steel Plates—In order to compare ingot iron and steel as material for pipe line purposes, and particularly to observe the particular action of local waters on these metals, plates were sunk in Nepaug River and Phelps' Brook. After three and one-half months these plates were taken up and it was found that the steel was slightly more corroded than the iron, but no particular action other than was to be expected was observed.

Disinfection of Water with Calcium Hypochlorite, Connecticut River—In November, when the storage of water in the reservoirs was diminishing, tests were made to determine the feasibility of using the Connecticut River water, treated with calcium hypochlorite, as a source of supply. These tests were made under the supervision of Mr. James A. Newlands. It was shown that by using about 1.5 parts per million of "available chlorine," all the objectionable types of organisms and 99% or better of all the bacteria could be removed. Thus a safe though not a wholesome water could

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be provided in case of an emergency. The disinfecting plant at the pumping station, now dismantled, can quickly be placed in use, charts and tables required for its operation having been made in accordance with the results obtained during these tests.

Hypochlorite Plant at Hawley's Brook—When construction work was begun at the east end of the tunnel through the Talcott Mountain, the drainage from the work was carried into Hawley's Brook which eventually empties into Reservoir No. 1. Bacterial examinations showed that this water was affected by the works and drainings. The number of bacteria in the untreated water has averaged about 2,500 per c. c. at 20°C. since January 1, 1913. A hypochlorite disinfecting plant was built over this brook and since January 3, 1913, hypochlorite equivalent to about 0.2 parts per million of "available chlorine" has been added to the water. Trouble was experienced for a time due to the clogging of the valves at night causing a partial stoppage of the flow of the solution, but this was remedied by night and day attendance. Daily bacterial examinations of this water before and after treatment have shown a bacterial efficiency of about 99% with the complete elimination of all dangerous types in 5 c. c. of the water. Samples of this brook at the point where it enters the canal from Reservoir No. 5 have shown a slight increase in the number of bacteria per c. c. when grown at 20°C. and the presence at times of B. Coli in 5 c. c. of the water.

Hypochlorite Plant at Reservoir No. 1—During January, 1913, tanks were set up in the intake tower at Reservoir No. 1, for the purpose of applying calcium hypochlorite to all the water passing into the city, should it appear necessary at any time to thus safeguard the supply. In order to test the efficiency of this plant it was put in operation February 20, 1913. During the eight remaining days of the month varying amounts of hypochlorite equivalent to from 0.1 to 0.4 of "available chlorine" have been applied. The average number of bacteria in the reservoir water has been 255 per c. c. at 20°C. Occasionally organisms of the B. Coli type have been found in 5 c. c. Samples taken from the pipe as it passes

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through the gate house a short distance down stream have shown the average number of bacteria per c. c. to be 20 at 20°C., this is a reduction of 92.2%. No objectionable types have been found at any time in 5 c. c. of the water taken from this station. Daily samples taken in the city during this period have had an average of 25 bacteria per c. c. at 20°C., and no objectionable types in 5 c. c. of the water.

Albany Avenue Brook—In the fall a brook near Albany Avenue had been diverted out of the watershed because of the location near it of a laborers' camp. In order to determine whether this water was safe for use bacterial examinations were made of it during the last of December and the first of January. During this period there was a marked decrease in the number of bacteria growing at 20°C. and the final elimination of all objectionable types of bacteria was shown.

Sanitary Inspection of the Watershed—In the middle of February an inspection was made of all the farms lying on the drainage area of Reservoirs No. 1 and 4. One rather objectionable pigsty was found and reported. Otherwise conditions were found to be acceptable. In this inspection it was found that 91 people, 169 cows, 33 horses, 14 pigs, 1,050 hens and 40 goats were living on this area, the majority of them being on the watershed of Reservoir No. 4.

Laboratory—A room has been partitioned off from one of the engineering offices in the Pilgard Building to be used as a laboratory. This has been equipped with apparatus necessary for bacterial and microscopical examinations of water. At the end of the year seven samples were being received daily from the various sources above referred to, for bacterial examination. This examination has been the count at 20°C. upon gelatin, the count at 37.5°C. upon agar, and a presumptive test for B. Coli in 1 and 5 c. c. of the water, which has been confirmed upon the production of gas.

Respectfully submitted,

(Signed) A. F. ALLEN,
Laboratory Assistant.

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ANNUAL REPORT OF THE DIVISION ENGINEER, RESERVOIR DIVISION.

West Hartford, Conn., March 14, 1913.

Mr. C. M. Saville, Chief Engineer,
Board of Water Commissioners,

Dear Sir—In accordance with your request of February 25, 1913, I submit the following report of the work under my supervision for the year ending March 1, 1913.

Rainfall.

The precipitation on the water-shed of the Hartford Reservoirs for the year 1912 was as follows:

Reservoir No. 1, West Hartford, Conn.....39.16 inches
Reservoir No. 4, Farmington, Conn.....38.64 inches
Reservoir No. 6, Bloomfield, Conn. (Gauge No.1,)36.24 inches

Appending this report is a table of rainfall for each month of the year as recorded at Reservoir No. 1.

This table covers a period of forty-five years with a mean rainfall of 44.12 inches, The mean of the three gauges previously mentioned, located on the water-shed, was 38.01 inches; 6.01 inches less than the yearly average as recorded at Reservoir No. 1.

In the following table is indicated the distribution of the rainfall by months at Reservoir No. 1, as compared with the monthly averages for forty-five years at the same location.

RAINFALL IN INCHES AT RESERVOIR No. 1.

	1912	Average for 45 yrs.		1912	Average for 45 yrs.
January,	1.50	3.48	July,	2.26	4.10
February,	3.21	3.53	August,	3.15	4.52
March,	6.76	3.97	September,	2.09	3.63
April,	3.99	3.27	October,	1.78	3.82
May,	5.17	3.53	November,	4.09	3.68
June,	0.57	3.25	December,	4.59	3.36
	Totals.....			39.16	44.14

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Accompanying this report is a record of rainfall kept by Mr. George J. Case, of Collinsville, Town of Canton, Conn., for the year 1912. This record also includes the period 1894–1912.

Water Consumption.

For the year 1912 the average daily consumption of water was 8.644 million gallons, an increase in the average daily consumption of 0.59 million gallons over the year 1911. In 1911 the increase was 0.34 million gallons over 1910.

The meter located on the supply mains at Reservoir No. 1 shows the average daily consumption by months to have been as follows:

Jan.,	8.320 million gallons	Jul.,	9.245 million gallons
Feb.,	8.710 million gallons	Aug.,	8.690 million gallons
Mar.,	8.625 million gallons	Sept.,	8.670 million gallons
Apr.,	8.445 million gallons	Oct.,	8.674 million gallons
May,	8.803 million gallons	Nov.,	8.283 million gallons
Jun.,	9.128 million gallons	Dec.,	8.140 million gallons

Taken by months, the highest daily average was in July, which was 9.245 million gallons and the lowest in December 8.140 million gallons.

Accompanying this report is a table showing the consumption of water by months since June, 1901. This is also shown graphically on the chart marked "Diagram Showing Average Daily Consumption of Water, Hartford Water Works."

Storage.

On January 1, 1912, the six reservoirs contained 2,113 million gallons and on March 15th following were filled to their total capacity of 2,124 million gallons. This storage includes an additional 100 million gallons over the normal capacity of the reservoirs, made available by 12-inch flash boards located on the waste weirs of Reservoirs No. 4 and No. 6; the additional storage being 55.7 and 44.0 million gallons respectively.

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The greatest depletion of the reservoirs occurred on December 27, 1912. There was in storage, on this date, 500 million gallons. The reservoirs contained 950 million gallons on March 1, 1913.

In the following table is given the amount of water passing the waste weirs of Reservoirs No. 1, No. 4 and No. 6 during the period of overflowing in 1912. As Reservoirs No. 2, No. 3 and No. 5 are tributary to Reservoir No. 1 no measurement at the waste weirs was made.

Jan. 1912	28 million gallons
Feb. 1912	26 million gallons
Mar. 1912	758 million gallons
Apr. 1912	290 million gallons
May 1912	505 million gallons
Total	1,607 million gallons

Measurement of Leakage at Dams.

At Reservoir No. 1 a weir was placed below the reservoir to determine the amount of leakage through and under the dam. During the greater part of the year the level of the water in this reservoir is held at a uniform depth below the water line. The maximum leakage was found to be .055 million gallons and the minimum .044 million gallons per twenty-four (24) hours.

At Reservoir No. 4 a similar weir was placed below the dam at a point 100 feet from the waste pipe. With the reservoir full, the loss by leakage was .13 million gallons per twenty-four (24) hours and with the reservoir depleted 15 feet (total depth 20 feet) it was found to be .023 million gallons per twenty-four (24) hours.

With Reservoir No. 5 full, there is a small leakage through or under the East dike. There is a maximum depth of 7 feet at this dike with the reservoir full. The maximum leakage was found to be .028 million gallons per twenty-four (24) hours.

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Reservoir No. 1.

The lawn surrounding the office and house was found to be in an unsatisfactory condition, the area comprising about 0.8 of an acre. An estimate of the cost of spading, grading and seeding was prepared and submitted.

The work was commenced in the latter part of April and finished May 20, 1912. In connection with this work, the fence on the sides of the drive near the office was removed and a plank walk built near the west side of the house. About one-half the area was re-seeded during the latter part of October, 1912, under the advice of Mr. G. A. Parker, Superintendent of Public Parks of Hartford. Fifty shrubs furnished by the Park Department of Hartford were planted on the north side of Farmington Avenue.

The care of drives, removing of vegetation from the reservoir basins and adjacent canals, weeding rip-rap and paving, cutting of grass and weeds, care of the hedge on the dam, cleaning about office, house and barn have received the customary attention during the year.

Under date of May 21, 1912, a report and estimate was submitted relating to a barbed wire fence between lands of Mr. Henry Seldon and the Board of Water Commissioners lying South of Farmington Avenue. The fence was built in June, 1913. It was constructed of four wires secured to chestnut posts set 16 feet center to center.

An estimate of the cost of a new stable floor at the barn and repairs on the rear veranda of the house was submitted July 1, 1912. This work was taken up and completed in October following.

The hot water heater, for many years in use at the office, has been replaced with a modern steam plant.

Alterations were made at the intake tower in December, 1912, preparatory to installing a plant for treating water with calcium hypochlorite as it enters the supply mains. This plant was later installed in accordance with the suggestions of the Consulting Chemist, Mr. James A. Newlands of Middletown, Conn. The mixing tank which has a capacity

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of 65 gallons is located near the top of the tower and drains by gravity into two storage tanks. The storage tanks have a capacity of 367 gallons each and drain by gravity to the constant level tank located near the floor of the building. The solution containing the chlorine is conveyed to a point near the bottom of the screen chamber by means of two 1-inch galvanized pipes. The plant is supplied with water from the six (6) inch pipe from Reservoir No. 5. The tanks are provided with a two (2) inch waste pipe discharging below the dam.

Reservoir No. 3.

A masonry bridge has been built at the point where the road crosses the channel which carries the waste water from the reservoir. The bridge is of the arch type, the sides and wings are of rubble set in cement mortar with raked joints, the foundation and arch are of concrete. The principal dimensions of the bridge are as follows: span 10 feet, rise 2 feet 4 inches, height of springing line above bed of channel 3 feet, width or road-way 14 feet, thickness of parapets 2 feet.

Reservoir No. 4.

The barn recently moved from the William Cadwell farm to a location below the dam has been fitted up conveniently for the storing of hay and the housing of horses and wagons.

The barbed wire fence between lands of Mr. William Parker and the Board of Water Commissioners, south of the reservoir, has been repaired.

The concrete retaining wall at the south end of the waste weir, cracked by the action of the frost, has been rebuilt.

On October 10th, a cracked pipe was found in the 24-inch main connecting Reservoirs No. 4 and No. 1; this occurred near the point where the line crosses the south road in Farmington. The water was at once shut off from the main and a new pipe placed in the line.

The care of the drives, removal of vegetation, weeding rip-rap and cutting of weeds and brush about the shore line has received the usual annual care and attention.

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At Dead Swamp Canal, tributary to Reservoir No. 4, the brush and rank vegetation growing near the banks of the channel has been cut and burned, the retaining walls and road repaired and the bottom cleaned of vegetation.

Reservoir No. 5.

Advantage was taken of the depleted condition of the reservoir during September and October and a large amount of vegetation and silt was removed from the portion of the basin lying north of the road leading to Reservoir No. 2.

The water courses connecting Reservoir No. 5 with Reservoirs No. 1 and No. 2 have been cleaned of debris and vegetation.

The drives about the Reservoir have been maintained in good condition, weeds and grass near the shore line cut and removed.

The wooden bridge over the stream connecting Reservoir No. 5 and Reservoir No. 2 has been replaced with a masonry culvert having a 14-foot roadway. The abutments were laid in cement mortar and are spanned with a 12-inch reinforced concrete slab made in position. The sides of the structure are of rubble set in cement mortar and form an arch over the 10-foot channel. The side walls, 18 inches thick, were capped with concrete slabs made in position. The road to the south of the culvert has been widened by the removal of some trees and cutting away the encroaching banks.

Reservoir No. 6.

The drives about the reservoir have been maintained in good condition. The bridge over the waste channel has been repaired, also a culvert near the south dam.

The bridge on the canal drive connecting Reservoir No. 5 and No. 6, south of Albany Avenue was replanked. A portion of the boundary fence on the east of the reservoir (about 650 feet) has been rebuilt and repaired.

Advantage was taken of the low condition of the reservoir to build a permanent and accurate gauge for measuring the depth of water in the reservoir. The gauge is located on the

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inner slope of the dam and extends from the retaining wall at the effluent pipe to a point 2 feet above the flow line. The construction is of reinforced concrete 30 inches deep by 18 inches wide and capped with 4-inch by 6-inch spruce secured with brass anchor bolts, and marked for vertical feet and tenths.

The small amount of water remaining in Wells Pond was drawn out in August and the bottom cleaned of vegetation and silt.

Hay Cut and Delivered.

There were cut and stored at the reservoirs fifty-two tons of hay for the use of the different departments in Hartford and for Reservoir No. 1. For the year ending March 1, 1913, 36.7 tons were delivered at Hartford for the use of the different departments.

Wood Cutting and Carting.

There were sixty cords of wood on hand March 1, 1912. August 12, 1912, to December 12, 1912, fifty-eight cords of wood were delivered in Hartford for the various departments.

There have been cut twenty-eight cords of wood at Dead Swamp Canal of which twenty-two cords have been delivered at Hartford.

From January 1, 1913, to March 1, 1913, 108 cords of wood have been cut on the watershed of Reservoir No. 1. Of this, thirty-six cords were obtained from clearing of brush land and from old apple trees. During this period, forty cords were delivered at Union Street, Hartford.

Total wood cut, 136 cords.

Total wood delivered, 110 cords.

In connection with cutting cord wood on the watershed of Reservoir No. 1, there were obtained seventy-three chestnut poles 36 feet long, 6-inch diameter at the small end, and 132 fence posts 8 feet long.

From February 16, 1913, to March 1, 1913, twenty-five men, previously employed in the City departments, were engaged in cutting apple trees, brush and cord wood.

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Forestry.

It is estimated that there are 4,000 white pines and 31,000 red pines in the nursery at Reservoir No. 1.

Two forest fires have occurred on the watershed during the past year. On October 17, 1912, a tract of thirty-five acres was burned over (principally sprout land) south of Dead Swamp Canal in the town of Farmington, Conn. Of the above area twenty-five acres was the property of the Board of Water Commissioners. The second fire occurred on the shed of Reservoir No. 3, October 22, 1912. In this case, about ten acres were burned over.

A map was prepared indicating the possible locations for planting in the Spring of 1913.

An examination of the forest and open areas on the watershed owned by the Board of Water Commissioners was made by Professor Toumey, Director of the Yale Forestry School.

A map was prepared indicating the age and the condition of the different tracts and areas to be planted.

In August, 1912, with the assistance of Mr. E. M. Sanford, of Unionville, Conn., an estimate was made and a report submitted of the dominating timber on these tracts and the approximate amount and value of the merchantable timber, ties and cord wood. In compliance with a recommendation of Professor Toumey, the white pine plantations were thoroughly examined and all dead tops removed and burned.

During the Spring of 1912, tracts aggregating about twenty-five acres were planted on the watersheds of Reservoirs No. 1 and No. 4.

Main Pipes and Gates.

Between Reservoir No. 1 and the stone arch bridge over Trout Brook at West Hartford Center, and at the gate-house, Reservoir No. 1 all gate valves were examined and operated. A concrete well has been built about the 20-inch gate located on the cross connection, 300 feet west of Foote's corners. Near this point a new 8-inch gate was placed on the south

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WESTERLY APPROACH TO TALCOTT MOUNTAIN TUNNEL.

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20-inch main. A new 20-inch Pratt & Cady gate with concrete well has been placed in the south main 500 feet east of Foote's corners. At this location a new air valve was placed in the north 20-inch main. The 6-inch blow-off valve and drain pipe on the south 20-inch main pipe, 500 feet west of Le May's hill, has been repaired. A 1-inch service pipe on Mountain Street, South of Farmington Avenue, has been replaced.

A report was submitted August 30, 1912, relating to available information of the 20-inch main pipes laid from Reservoir No. 1 to the City.

Miscellaneous.

The grass and weeds on the outer slopes of the Garden Street Reservoir, Hartford, were cut and stored at the pumping station.

Eight two-horse loads of stable manure were taken from the Pumping Station and Union Street Yard to Reservoir No. 1.

Three privies at Electric Park on the drainage area of Reservoir No. 1 were cleaned and the pits disinfected with formaldehyde.

The reservoir drives north of Farmington Avenue have been arranged for convenience of the public into one-way and two-way roads and sign boards, indicating the direction to be taken, placed at the necessary points.

For violating the rule prohibiting fishing in the Reservoirs, two prosecutions have been made.

Test Borings for Proposed Talcott Mountain Tunnel.

Under contract of Sprague & Henwood, Inc., of Scranton, Penn., dated March 12, 1913, "for making borings into rock," seven test borings were made, with an aggregate depth of 562.25 feet, on Talcott Mountain in the town of Farmington, Conn., three west of the summit and four east.

The purpose of these borings was to determine the position and nature of the underlying rock and for other information

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necessary in determining the location of the proposed tunnel which will be a part of the plan for increasing the water supply from Nepaug River and Phelps Brook.

The work was commenced March 22, 1912, and completed May 21 following. Two drills cutting 1-inch cores were used on this work.

Talcott Mountain Tunnel and Concrete Conduit.

Stobaugh Contracting Company, of New York, began the erection of their camp December 5, 1912. The camp is located on land of the Estate of C. M. Beach, in the town of Farmington, Conn., on the west slope of Talcott Mountain.

On December 13th, a steam shovel was placed for excavation of the east approach to the tunnel and also one for the excavation of the west approach was placed December 30, 1912.

A compressor plant, stone crusher and repair shop have been located near the east approach to the tunnel. The excavation on the two approaches has been 9,440 cubic yards.

A channel for diverting a small stream near the west portal has been constructed.

Arrangements have been made for preventing the drainage from the area occupied in the construction of the tunnel and conduit from reaching Reservoir No. 1 in a contaminated condition.

The water drained from this area is collected by means of a low dam on the "Hawley farm" and treated with calcium hypochlorite.

Surveying and Maps.

The following surveys and maps have been made: For Talcott Mountain Tunnel and Conduit, proposed pipe line connecting Talcott Mountain Conduit in the town of Farmington and dam site at Phelps Brook in the town of Burlington, Conn., proposed filter site, west of Reservoir No. 1; proposed sedimentation basin, west of Reservoir No. 1, abandoned water powers on Phelps Brook, diverting a portion of the drainage area of Dead Swamp Canal, Albany Avenue,

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EASTERLY APPROACH TO TALCOTT MOUNTAIN TUNNEL.

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in the vicinity of Reservoir No. 6, from Wells Pond east to Canal connecting Reservoirs No. 5 and No. 6, Canal connecting Reservoirs No. 5 and No. 6.

A portion of Reservoir No. 5 near point where road crosses the reservoir.

Surveys of the following properties were made: Thomas Bannon, north of Reservoir No. 2; Charles D. Hawley, west of Reservoir No. 1; William Maloney Estate, west of Reservoir No. 1; J. J. Donahue and E. O. Kilbourne in the towns of Farmington and New Britain, Conn.

An estimate was prepared on excavating and filling the shallow flowage of Reservoirs Nos. 2, 3, 4, 5, 6.

A report was prepared concerning the flow line of Reservoir No. 5 and including all available information relating to the construction of the dam and capacity of the reservoir.

Respectfully,

(Signed) W. E. JOHNSON,
Division Engineer, Reservoir Divison.

ANNUAL REPORT OF THE DIVISION ENGINEER, EAST BRANCH AND NEPAUG DIVISIONS.

New Hartford, Conn., March 1, 1913.

Mr. C. M. Saville, Chief Engineer,

Dear Sir—Following is a report of the work done under my charge from March 1, 1912, to date:

Force.

The office at New Hartford has been maintained all the year and the East Branch Divison and the Nepaug Division have been conducted from this office. The force on March 1, 1912, was eleven men: one division engineer, one assistant engineer, one draftsman, one transitman, two

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instrumentmen, and five rodmen. From time to time, as men were needed on the other divisions, they were transferred from this office and at the present time the force is six men: one division engineer, one assistant engineer, one draftsman, one transitman, one instrumentman and one rodman.

EAST BRANCH.

Surveys.

The center line for the proposed new highways, 24,500 feet in length, was staked out, a profile of the center line taken, and cross sections, 50 feet on each side of the center line, were taken at every 100-foot station. Profiles of the existing roads, which will be submerged, were taken, 25,200 feet in length. The watershed areas of four brooks, crossed by the proposed new highways, were surveyed to determine the necessary size for the culverts. Topography, covering 260 acres, was taken in the East Branch Basin. Flood elevations, obtained from the ice marks on the trees along the banks of the East Branch, were located from the Richards' corner dam site to the Barkhamsted bridge and the elevation of these marks taken. Stream gagings were made at the East Branch, at Beaver Brook, and at the Farmington River at the bridge at New Hartford. Detailed surveys, showing the classification of the cultivation of three parcels of land, belonging to Richards, Manchester, and Stanclift, were made. All test borings and test pits were located.

Office.

Plans and profiles of the proposed new highways were drawn, and estimates of the costs of the different routes figured. All topography notes taken were reduced and plotted on the plans of the reservoir. A detail plan of the proposed dam site at the Pine Grove was drawn. Progress drawings of the test borings were made each week and diagrams, showing the materials penetrated, the core recovered, the rate of progress and the cost of driving, were prepared for

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each hole. Plans were drawn showing the classification of the land of property belonging to Richards, Manchester and Stanclift, four plans in all.

NEPAUG.

Surveys.

To check the traverse lines run for the property surveys, a triangulation system was established at the Nepaug basin, a base line measured and nine triangulation stations set. Angles were read at each station. Topography, covering seventy-five acres, was taken from the Phelps Brook dam site to the Lyman property, along the east side of the reservoir, for use in road location. For the same purpose, topography, covering twenty acres, was taken from the bridge at the northwest end of the reservoir along the west side of the reservoir to the Garrette property. For a guide in determining the amount of property needed for the reservoir, the contour line, elevation 500, where not previously located, was run out, covering a distance of 22,000 feet. Topography, covering ten acres, was taken from the Nepaug dam site down the river to the Farmington River, to show a possible location for a siding from the N. Y., N. H. & H. R. R. to the dam site. To check up the distance from the West Hartford Reservoirs to the Nepaug Reservoir and to the East Branch Reservoir, fourteen triangulation stations were established, two of which are on United States Government stations, Talcott and Johnny Cake. The distance between these two stations will be used as the base line for our system. The concrete weir, across the Nepaug near the old powder mill, was repaired, so that it could be used for stream gagings.

Office.

Four plans, scale 1 inch equals 200 feet, covering the Nepaug Reservoir were drawn. Calculations for the bearings and distances for each parcel of land required for the Nepaug Reservoir were made and separate tracings for each parcel were drawn, forty-one in all. A large plan and tracing of the

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Nepaug basin, scale 1 inch equals 400 feet, showing each parcel and the acreage, was also prepared. A plan, showing the topography from the Nepaug dam site to the Farmington River was drawn. A plan of the Nepaug dam site, scale 1 inch equals 20 feet was drawn. Descriptions of all the parcels required for the Nepaug Reservoir were written.

RESERVOIR.

Surveys.

The field party worked through January and February on staking out possible lines for the pipe line and taking profile and topography along each line. Twenty-three thousand feet of center line was covered by the party and topography, 100 feet on each side of the center line, was taken for 6,500 feet of these lines. The center line was retaped for 9,860 feet. Assistance was given the real estate agent in showing him the location of the line in the field.

Office.

Detailed plans of the road just south of the Phelps Brook dam site and of the road near the Unionville dam across the Farmington River, were made for use in studying the best location for the pipe line at these places. Estimates of costs of different routes of the pipe line were made and deeds of land crossed by the pipe line were looked up and copied.

CONTRACT WORK.

Borings.

Investigations of the subsoil and ledge rock were made at the dam sites at the East Branch and at the Nepaug Reservoir by means of diamond drill borings. A contract for doing this work was awarded to Sprague & Henwood Company, of Scranton, Pa., and work was started at the Richards' corner dam site at the East Branch on March 20. Three drilling machines, run by gasoline engines were used with a steam

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boiler to pump water for wash boring and drilling. Fourteen holes were driven at this location, all going into ledge rock. At the Pine Grove dam site, about 2,000 feet north of the Richards' corner site, eleven holes were driven into rock and three were driven down to rock. Two dam sites were explored at the Nepaug River, six holes being driven down at one site and nine at the other. Six holes were put down at the Phelps Brook dam site and three at the site of the East Dike. In all fifty-two holes were sunk, with a total of 3,012.5 feet of which 1,059.6 feet was with core over 2 inches in diameter, 1,767.8 feet was with core less than 2 inches in diameter and 185.1 feet was wash boring down to ledge. The contract was completed about the middle of August. Porosity tests of the rock penetrated was made at each hole. For determining the material near the dam sites and for locating clay for the core wall of the dam, forty-two test pits were dug at the East Branch, four near the Nepaug dam site and five at the Phelps Brook dam site. The locations of these test pits are all shown on drawings.

Respectfully submitted,

(Signed) HAROLD W. HORNE,
Division Engineer,
East Branch and Nepaug Divisions.

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ANNUAL REPORT.
March 1, 1913.

Table No. 1. Plans Drawn at the New Hartford Office.

	Paper Plans.			Tracings and Profiles.		
	Previous	1912-1913	To date	Previous	1912-1913	To date
East br'ch	6	11	17	40	69	109
Nepaug ..	0	9	9	0	75	75
Total ..	6	20	26	40	144	184

Table No. 2. Test Borings.

	Core 2 inches and less in diameter.	Core larger than 2 inches in diam.	Total.
Richards' Corner....	596.6 feet	281.3 feet	877.9 feet
Pine Grove.....	*711.1 feet	239.0 feet	950.1 feet
Nepaug upper site ..	277.0 feet	109.5 feet	386.5 feet
Nepaug lower site...	148.8 feet	264.0 feet	412.8 feet
Phelps Brook.....	144.4 feet	132.3 feet	276.7 feet
East Dike.....	75.0 feet	33.5 feet	108.5 feet
Total.....	1,952.9 feet	1,059.6 feet	3,012.5 feet

* This includes 185.1 feet of wash boring to ledge.

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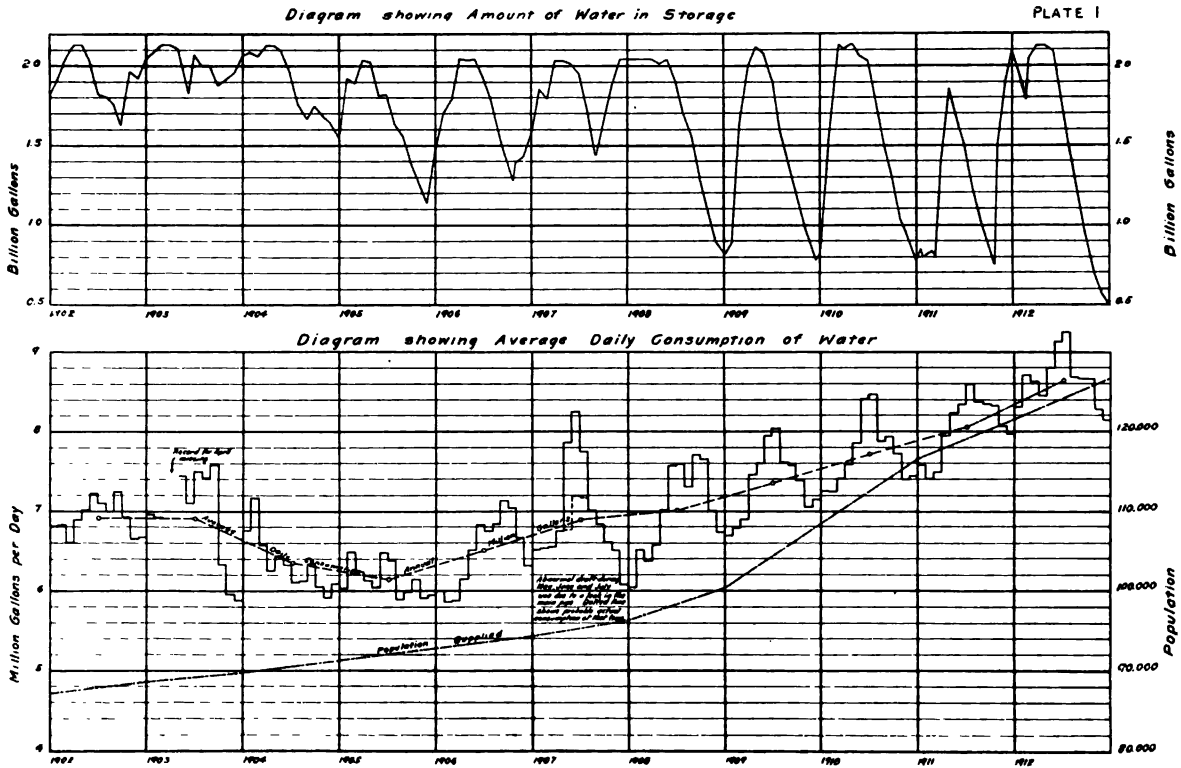

DIAGRAM SHOWING CONDITION OF STORAGE, AVERAGE DAILY CONSUMPTION AND INCREASE IN POPULATION.

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ANNUAL REPORT OF THE DIVISION ENGINEER, DISTRIBUTION DIVISION.

Mr. C. M. Saville, Chief Engineer,

Dear Sir—I submit the following report of the Distribution Division for the year ending March 1, 1913:

Records of Construction Work.

Surveys have been made of all streets in which new pipes have been laid and measurements taken to show the location of all main pipe, service pipe, gates and hydrants installed during the year for permanent records in the office.

Gate Valve Tests.

Since July 1st, 822 gate valves on the main pipes 12 inches and larger were inspected and operated and necessary repairs made. This work was done by our regular force when opportunity permitted. During a portion of the month of February a force of men were employed removing the ice and placing salt on the covers of the gate casings on the more important mains to make them more easily operated in case of a break in the distribution system.

Double Check Valve Systems.

The check valves, in use on each fire main supplying factories having an auxiliary supply from other than the City mains, have been tested each month and maintained in good order. In October they were thoroughly overhauled and inspected under the supervision of the Associated Factory Mutual Fire Insurance Companies of Boston.

Waste Investigation With Pitometers.

An investigation of the leakage in the distribution system was begun in June and continued intermittently until November. The City was divided into seven sections and the flow into each section was measured, after midnight, with pitometers, gates being operated meanwhile to divide the large

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sections into several sub-sections. The entire night consumption was accounted for in this manner and can be further traced to single streets in subsequent tests.

Pumping Station.

In the early part of November, the water supply in the reservoirs being dangerously low, the pumping plant at Riverside Park was put in order for immediate operation if necessary. The Worthington pumps were assembled and operated for a twenty-four hours' test, the chemical plant for treating the river water with hypochlorite of lime was connected with the pump intake and the entire pumping plant held in readiness for use until the middle of December.

Garden Street Reservoir.

In order to permit of an examination of the condition of the inner slopes of the Garden Street Reservoir, the work of drawing off the water was begun July 8th and continued at a uniform rate until September 12th, at which time it was completely drained. Cross sections of the embankments were made and test pits dug to determine the character of soil of which they were built. The reservoir was refilled beginning January 2nd and completed February 7th. During the time the reservoir was drained the gates in the gate house were repaired and put in good operating condition.

Electrolysis Survey.

Seventeen test stations were installed on the larger main pipe for measuring the current, in connection with the electrolysis survey conducted by Prof. Albert E. Ganz, of Stevens Institute and also to facilitate future tests at the same points. During the period covered by this survey, about six weeks, two assistants and a team were furnished by this division.

Cleaning Water Mains.

Under a contract with the National Water Main Cleaning Company the northerly 20-inch main on Farmington Avenue

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was cleaned from the reservoir to Ford Street and the southerly 20-inch main from the reservoir to Westland Avenue, a total distance of about six and one-fourth miles. This division furnished the necessary force for operating gates, and shutting off all service pipes on the section of main cleaned to prevent the entrance of dirt to the house services.

Pitometer tests were made of the capacity of the mains both before and after cleaning.

Regulating Night Pressure to Decrease Consumption.

As a means of reducing the night consumption, while the supply in the reservoirs was low, the main gates on Farmington Avenue and on Park Street were throttled each afternoon and opened in the early morning, so as to maintain a night pressure at City Hall equal to the average pressure during working hours. The men operating these gates were stationed in the nearby engine houses and opened the gates on each alarm of fire. This work was begun November 22 and continued to date.

Wethersfield Fire District System.

In connection with the installation of the new water supply system in the town of Wethersfield, this division has prepared a general plan of the work proposed, with estimates of the cost of construction, surveyed and mapped the streets in which mains were laid; made locations of the main and service pipe when installed and prepared permanent records of this work.

Respectfully submitted,

A. CLARK HALL,
Division Engineer (Acting).

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REPORT OF CONSULTING GEOLOGIST.

New Haven, Conn., July 8, 1912.

Mr. C. M. Saville, Chief Engineer,
Board of Water Commissioners,
City Hall, Hartford, Conn.,

Dear Sir—I herewith submit the final report of my study of the

RESERVOIR SITE AT NEPAUG.

Geologic Structure.

As shown on the accompanying geologic profiles, the Nepaug gorge is cut in metamorphic rock, and the ledge underlying the area surveyed consists of thinly foliated mica schist carrying garnets and kyanite, and impregnated with granules of quartz and stringers of granite-gneiss and irregularly disposed masses of pegmatite. The schist is well exhibited in the prominent ledge extending east from H-6+75, in the brook above section line J, and in cores from N-D (on E line), and from upper part of N-3 and N-5, and lower parts of N-4 and N-6 (all on G line). Typical injected schist constitutes the cores from borings N-B (on E line) and N-1 and N-2 (on G line). The gneissoid and pegmatitic phases outcrop at C-6+50, on the bank of the stream near E-5+50, west of E-2+50, and occurs in borings N-A, N-H, and upper two-thirds of N-E on E line, and at bottom of N-3 and top of N-4 on G line. The strike and dip of the planes of foliation in the schist are shown by instrumental measurements to be N-15-20°E, dip N-75°W, 50°, between Stations A-2 and A-2; N-20°E, dip N-70°W, 45° (one place dip 60°), near boring N-6; N-25°E, dip N-65°W, 45°, at H-6+75; N-15° N-25°E, N-30°E, dip N-W+, 40°, 50°, at ledge in stream above J line. These values combined with measurements taken immediately beyond the area surveyed, give a working figure of strike N-25°+E, dip N-65°+W, 45°, a figure which varies considerably from the rough estimates of my preliminary report.

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Joints and Seams.

Rock outcrop and drill cores reveal two classes of openings along which water may pass:

1. Actual and potential spaces along the planes of bedding (schistosity). These have the direction of the strike N-25°E and dip N-65°+W, 45°+. Most of them are closed except within a few feet of the surface, and their continuity is interrupted by the frequent change in rock character and their degree of openness is subject to wide variation within distances of a few feet. It is impractical to determine the exact location and the nature of this class of potential water courses, but their harmful influence is lessened by the following considerations: (*a*) No lamina in the series is distinctly more soluble than others, hence a definite water-bearing zone of considerable extent is highly improbable. (*b*) Planes of separation between the layers are frequently occupied by injected quartz and feldspar or are cut entirely off by pegmatitic intrusions. (*c*) The ordinary course of water in rocks of this type is zigzag from joints to planes of bedding so that the stoppage of either class of openings renders the rock impervious.

On the other hand, it should be noted that the strike of the schist, N-25°E, is nearly normal to the axis of the proposed dam and that accordingly the upstream edges of potential openings between the beds are favorably placed for the reception of ground water.

2. *Cross Joints.* Many joints which show their trace upon the rock surface are insignificant as to openness and continuity and may be disregarded, but the following are persistent and should be taken into account: N-45°W, dip N-45°E, 80°, 70°; N-60°W, dip vertical; N-70°W, dip S-20°W, 40°; N-50°W, dip vertical; N-30°W, dip vertical; N-70°E, dip N-20°W, 80°, dip S-20°E, 30°. The joints extending N-45°W, and N-50°W may be treated as one set, as also may the two joints N-50°W and N-60°W; and for practical purposes three sets, viz.: N-45°W, N-55°W, and N-70°E, may be considered as representative of the field.

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The spacing of these sets varies from 5 feet to 30 feet, with an average of perhaps 15 feet. Of the above joints the one striking N-45°W is most liable to develop water channels. While field observation gives no evidence of openings along joints continuous for more than 20 or 30 feet, and the structure and attitude of the rocks renders their presence improbable, yet safety suggests that each set of joints be considered as a possible water course.

Decomposed Rock.

The surface of the rock where exposed by the drill on line E-E is fresh at N-A, N-B, N-C, N-F, and N-H; is slightly decomposed at N-E and N-6, and weathered to a depth of 12 feet at N-D. On line G-G, surface decomposition is significant at N-1, N-2, N-4, and N-6. The core from N-3 is weathered to a depth of 10 feet. Boring N-5 exhibits an unusual amount of decomposition. Mica schist, badly decomposed in spots, occurs at the top and between 39 feet and 44 feet, and elsewhere irregularly distributed. The core is, in general, however, granite-schist and pegmatite carrying pyrite and graphite and hydrated micas; is, in part, brecciated and exhibits open cavities. While the presence of rotted material in solution cavities and on joint and bedding planes indicates absence of current, yet water could readily pass through these openings. Weakly cemented, brecciated rock, similarly decomposed, occurs at N-A approximately along the strike and indicates that the conditions at N-5 are not strictly local.

Surficial Cover.

The unconsolidated material is glacial till with smaller amounts of talus, and is much thicker than the estimates given in my preliminary report. Its composition is everywhere the same: rounded, angular, and slab boulders, chiefly of schist, gneiss and pegmatite, imbedded in gravel of similar composition. None of the material observed is sufficiently fine in texture or argillaceous in character to render it impervious.

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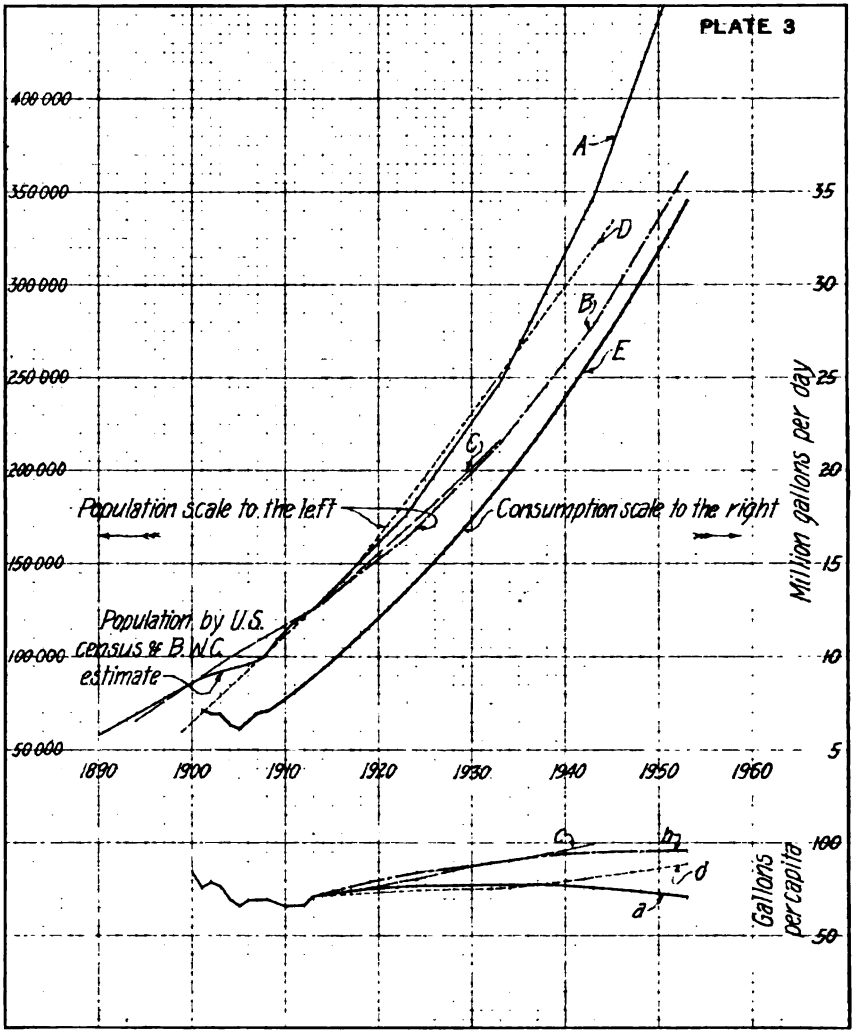

CURVES SHOWING RATES OF INCREASE IN POPULATION AND CONSUMPTION.

Curves A, B, C and D show increases in population from that of Hartford on March 1, 1913, as follows:

A—40% increase every 10 years.

B—30% increase every 10 years.

C—Increase same as Providence, R. I.

D—Increase same as the average of Washington, Rochester, Buffalo, Cincinnati and Milwaukee.

Curve E shows the estimated increase in total consumption of water derived as explained on Plate 5.

Curves A, B, C and D show the consumption in gallons per capita corresponding to a total consumption as per curve E, and populations as per curves A, B, C and D, respectively, for the same year.

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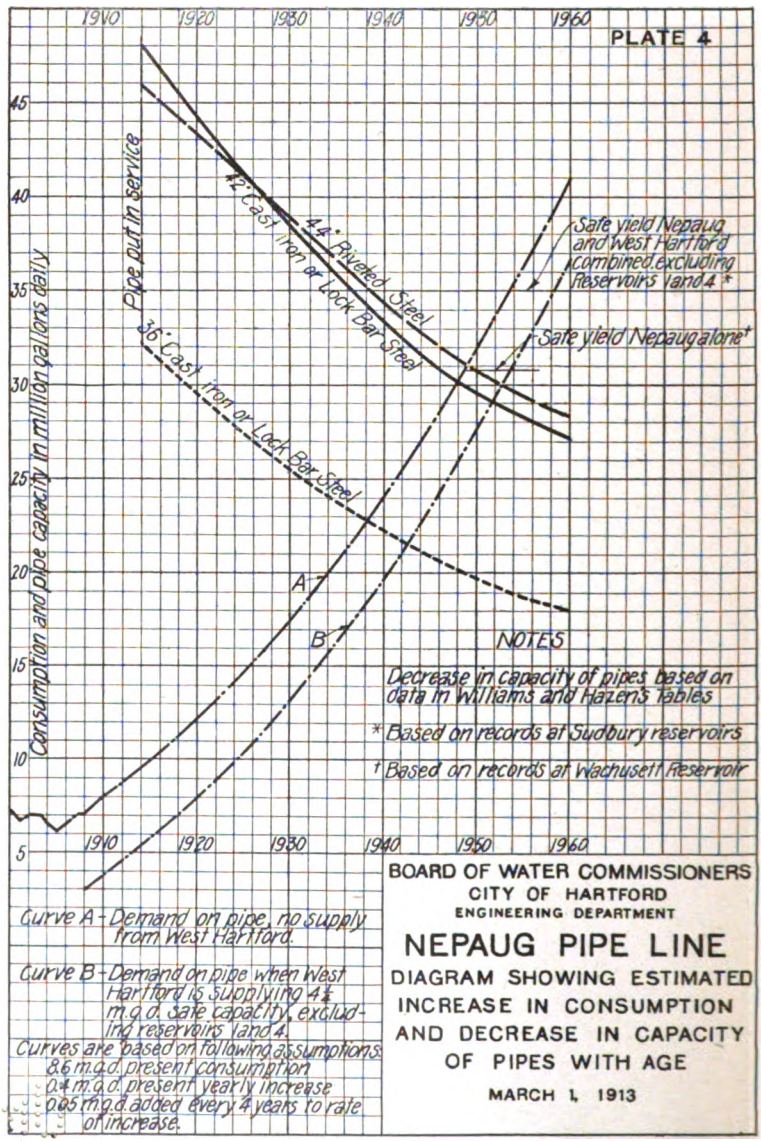
PLATE 4
1910
1920
1930
1940
1950
1960
45
40
35
30
25
20
15
10
5
Consumption and pipe capacity in million gallons daily
Pipe put in service
42" Cast Iron or Lock Bar Steel
44" Riveted Steel
36" Cast Iron or Lock Bar Steel
Safe yield Nepaug and West Hartford combined excluding reservoirs 1 and 4 *
Safe yield Nepaug alone*
A
B
NOTES
Decrease in capacity of pipes based on data in Williams and Hazen's Tables
* Based on records at Sudbury reservoirs
† Based on records at Wachusett Reservoir
Curve A - Demand on pipe, no supply from West Hartford.
Curve B - Demand on pipe when West Hartford is supplying 4½ m.g.d. safe capacity, excluding reservoirs 1 and 4.
Curves are based on following assumptions:
8.6 m.g.d. present consumption
0.4 m.g.d. present yearly increase
0.05 m.g.d. added every 4 years to rate of increase.
BOARD OF WATER COMMISSIONERS
CITY OF HARTFORD
ENGINEERING DEPARTMENT
NEPAUG PIPE LINE
DIAGRAM SHOWING ESTIMATED INCREASE IN CONSUMPTION AND DECREASE IN CAPACITY OF PIPES WITH AGE
MARCH 1, 1913

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Foundation.

The gravelly glacial till is unsuitable for dam foundation. All phases of the bed rock possess sufficient resistance to crushing, shearing, and sliding on planes of schistosity, provided water is excluded.

Materials for Construction.

It is highly improbable that material sufficient in quantity and suitable in quality for an earth dam can be obtained in this locality. Rock material for concrete within the immediate vicinity of the dam site is all of second quality. The best available is to be secured from scattered pegmatite ledges and from the more granitic phases of the gneissoid schist along and beyond the north bank of the river. No deposits of mortar sand have been revealed by pits, and further exploration is needed to discover suitable sand and rock.

Respectfully submitted,

(Signed) HERBERT E. GREGORY,
Geologist.

New Haven, Conn., July 5, 1912.

Mr. C. M. Saville, Chief Engineer,
Board of Water Commissioners,
City Hall, Hartford, Conn.,

Dear Sir—I herewith submit my final report on the geology of the

PHELPS BROOK DAM SITE.

Geologic Structure.

The structural relations and types of rock at Phelps Brook are sufficiently described in my preliminary report under the heading "Bed Rock." The drill cores from this locality reveal the fact that the bed rock below the surface is identical in composition and texture, and exhibits the same

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variations as the material exposed in ledges. The strike and dip of the planes of schistosity or foliation (the apparent bedding) differ from the non-instrumental measurements given in my preliminary report, and are as follows: At eleven points along and near the proposed dam the strike is N-S (at five places), N-5°E (at three places), N-10°E at (two places), N-20°E (at one place). The variation is due to curving of foliation planes and also to pegmatitic intrusions. N-5°E may be safely taken as the strike of the planes of schistose cleavage for the whole area. The dip ranges from 70° to 80°W+. The accompanying geologic profile illustrates the conditions at this locality.

Porosity of Rock.

As regards the possibility of leakage along joints and planes of schistosity, the drill cores indicate the following conditions:

Boring P-3. Planes of foliation are weathered at several horizons but not sufficiently to indicate actual passage of water along them. Two open joints large enough to form incipient water channels occur at 16.8 feet and between 19.8 and 20.8 feet, and extend about N-70°E, with dip N.W. 80°+.

Boring P-1. The schist from this hole is firm and fresh, the pegmatite exhibits weathered feldspars and slight discolorations on immediate faces of joint, but no joints or cracks which are likely to permit the passage of water.

Boring P-4. The schist in this core is highly injected with pegmatite and is firm and probably water-tight below 9 feet. Between 6 and 9 feet the cleavage faces are slightly weathered, but probably no open seams occur.

Boring P-5. From the surface to a depth of 5.6 feet the mica schist carrying kyanite and garnet, and injected with pegmatite is sufficiently weathered on cleavage planes to allow the passage of water. At 10.8+ a rotted seam may allow seepage. Below that point the rock is probably water-tight.

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Boring P-2. The top part of this core (7 to 20 feet) is pegmatite so badly decomposed along joints as to permit passage of water under pressure. The mica schist (20 to 40 feet) below the pegmatite is fresh and water-tight.

Boring P-7. The core from this boring has not been studied but the firm unweathered schist at the surface of the ledge and its protected position at the top of a ridge suggest water-tight conditions.

Joints and Seams.

Surface outcrops and drill cores reveal two general locations of actual and potential openings through which water may pass.

(1) Along the planes of foliation (or apparent bedding) in the schists. These openings are continuous only for a few feet, and are in reality partially closed, lens-shaped spaces distributed irregularly through the upper few feet of rock. No amount of exploration short of breaking the rock into small fragments would determine the extent and location of these possible openings and their presence has little significance, especially since the planes in which these openings occur are approximately parallel with the axis of the proposed dam, and the strata dip upstream. They are, therefore, important chiefly as feeders to cross joints.

(2) Cross joints traversing schist and pegmatite alike. These joints assume the following directions and dip: South of the stream, N-70°W, dip S-20°W, 85°; N-80°E, dip N-10°W, 80°. Between the north bank of the stream and the road, N-50°W, dip S-40°W, 70°; N-80°E, dip N-10°W, 85°; N-70°E, dip N-20°W, 80°; N-60°E, dip N-30°W, 80°; N-80°W, dip N-10°E, 70°; N-30°E, dip S-60°+E, 30°. On the ridge in the woods, north of the road, N-50°E, vertical; N-70°W, dip N-20°E+, 75°; N-60°E, vertical; N-80°W, dip S-10°W, 85°; N-30°W, dip N-60°E, 75°. Because of the variation in the strike of the planes of foliation, N-70°W, and N-80°W may be considered as the same line of fracture running N-75°W; likewise, N-70°E and N-80°E may be treated as an N-75°E joint; and N-50°E, and N-60°E may

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be viewed as a joint which strikes N-55°E. N-50°W, N-30°W, and N-30°E are the directions of the three other joints. It will be noted that, with one exception, the dip of the joint surfaces is 70° or more and for practical purposes may be assumed to be vertical. These six sets of joints are spaced from 6 to 30 feet apart, with an average for the more important one of probably more than 20 feet. Two of the above sets, viz., N-75°W and N-75°E are co-extensive with the area surveyed, and should receive special attention. The other four sets are less continuous and more frequently tightly closed. Other joints occur but are too minute and irregular to be of significance. While individual joints may be traced for several hundred feet, it is highly probable that no open joint is continuous for more than 20 or 30 feet, their continuity being interrupted by the frequent, sudden change in character of the strata. It has been noted that wells in rock of this character rarely receive water from a larger area than a circle with a 100-foot radius, and that nearly all the water comes from joints within 100 feet of the surface, following the law that, the deeper the hole the fewer the joints. At Phelps Brook the deepest open crack revealed by the borings is 20 feet (hole P-2). These joints should not, however, be neglected and water-tight bond may be secured by filling all joints which appear at rock surface above and beneath the dam, or by covering the rock floor with impervious material beneath and for a distance of 20 to 30 feet above the upper base of the dam.

Foundation.

Both mica schist and pegmatite possess crushing and shearing strength and frictional resistance on joints and planes of foliation amply sufficient to support a broad-based earth dam such as is proposed. An additional factor of safety lies in the fact that the pressure of the water back of the dam will be opposed by schist in its most resistant attitude: viz., nearly parallel with the planes of foliation. The exclusion of water is the prime consideration. The surficial cover of the ledge will not, however, furnish suitable foundation, since

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Boring P-1 and Boring P-4 penetrate 29.2 feet and 6 feet respectively of glacial and water-worn boulders, gravel and sand, too loosely compacted to furnish a water-tight bond.

Material for Construction.

Test pits designed to discover material for earth dam have not yet been dug at Phelps Brook (for suggested location see my preliminary report), and the nature of available material for concrete may be obtained by selection of denser gneissoid phases of the ledge in the wood north of the road; also from pegmatite ledge north of the road and also south of the Fisher house. The most likely location for sand in quantity is in the vicinity of K-7 to K-8, and M-7 to M-9.

Respectfully submitted,

(Signed) HERBERT E. GREGORY,
Geologist.

New Haven, Conn., July 10, 1912.

Mr. C. M. Saville, Chief Engineer,
Board of Water Commissioners,
City Hall, Hartford, Conn.,

Dear Sir—I am sending you herewith the final report of my survey of the East Branch of the Farmington River.

PART I. THE RICHARDS' CORNER DAM SITE.

Geologic Structure and Character of Bed Rock.

The geologic relations and the types of rock found at the East Branch are described in my preliminary report. The evidence from drill cores is in accord with the facts obtained from a study of the outcrops, and the distribution of the various types of rock is indicated on the geologic profile. The strike of gneiss and schist varies from N-15°E to N-25°E, and for working purposes may be taken as N-20°E, with dip S-E or N-W, 80°; i. e., the planes of schistosity are practically vertical.

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Joints.

Outcrops examined at, and within a radius of a mile from, the two proposed dam sites on the East Branch reveal many insignificant joints of a few feet in extent and usually of microscopic openings, and also several joints of importance. The following joints occur throughout the area, and may be traced continuously or with frequent offsets for distances of 30 to 60 feet: N-30°E, dip N-60°W, 15°; N-40°W, dip S-40°W, 70°; N-70°W, vertical; N-25°W, vertical; E-W, dip vertical, or N-80°+, or S-80°+. The joints striking E-W, N-40°W and N-30°E are the most continuous and the most frequently open. Seepage was observed on these two joint planes where exposed on cliff faces. It is quite unlikely that these joints furnish continuous passages where located beneath the valley fill, for ample avenues for ground water circulation are supplied by the deep gravel cover. The absence of extensive circulation of water in bed rock is also shown directly by borings. Drill cores from Borings Nos. 1, 2, 4, 5, 6, 7, 8, 10, are practically unweathered from top to bottom. The cores recovered from Borings 3 and 9 are too limited in amount to furnish reliable data; but the core fragments from No. 3 are weathered at some point between 25 feet and 36 feet, and at 73 feet, while those from No. 9 consist of fresh rock.

Surficial Cover.

The glacial material overlying bed rock is abnormally deep and is unusually free from "hardpan," clay, and even fine sand. The absence of lenses of compact, fine sand and of argillaceous material, even at the rock surface, is somewhat surprising. The material exposed by drilling and test pits consists in general of rounded pebbles and boulders of schist, granite, pegmatite, granite-gneiss, quartz, and quartzite, 1 inch to 1 foot and over in diameter, embedded in gravel and coarse sand. The thorough prospecting done corroborates the conclusion of my preliminary report, viz.: that no part of the valley fill between flow lines is to be considered impervious. If an earth dam is constructed at this point an impermeable core must be provided.

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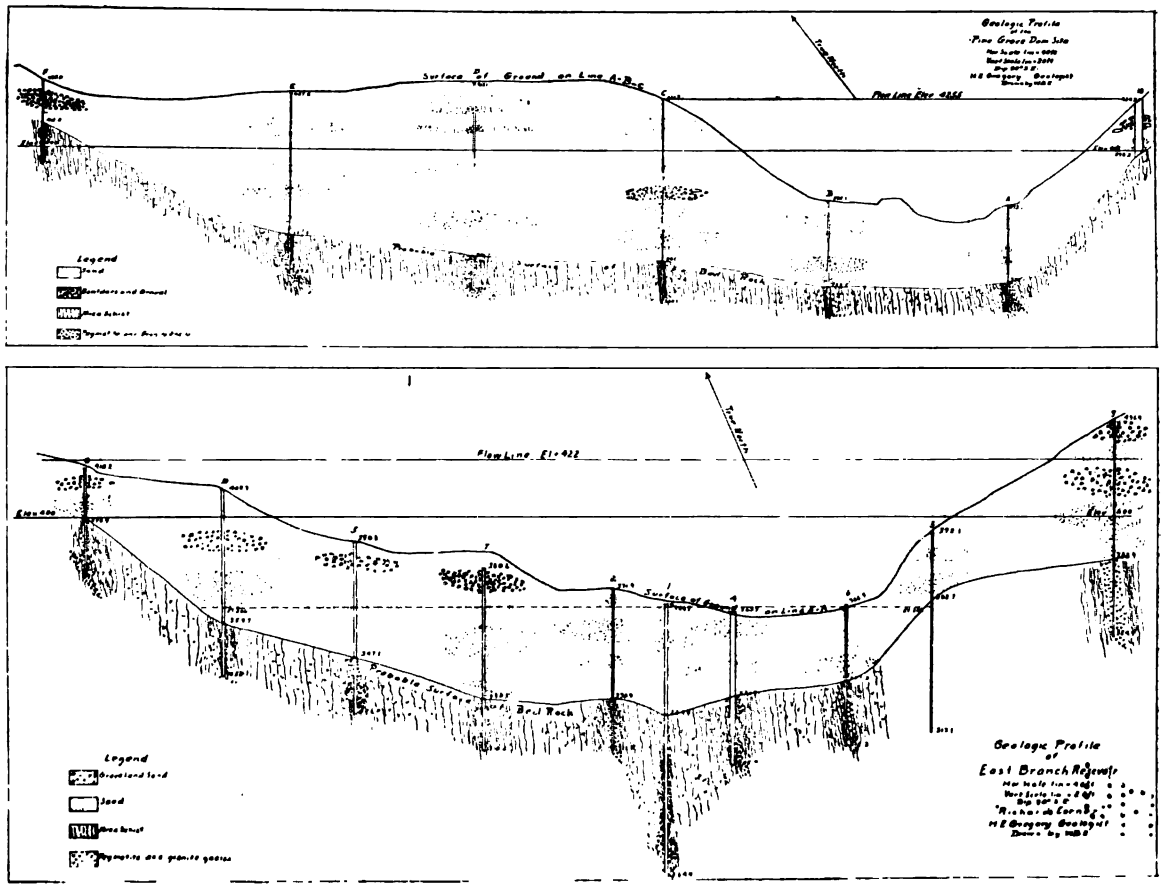

(C) EAST BRANCH DAM SITE TWO LOCATIONS.

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Foundation.

The glacial cover, because of its extreme porosity, is unsuited for dam foundation; the rock, however, possesses all the necessary features for a satisfactory base.

Materials for Construction.

No impermeable material for earth fill has so far been exposed by pits or borings at Richards' corner. For concrete the best rock materials near at hand are the granite, quartz, and quartzite boulders distributed abundantly. Gneiss and pegmatite may be obtained from the cliffs west of the tobacco barn, and at or near the old quarry east of the stream.

PART II. PINE GROVE DAM SITE.

Structure, Bed Rock, Etc.

As indicated on the Geologic Profile, surface outcrops and drill cores show bed rock at Pine Grove to be essentially identical with that at Richards' corner. The strike and dip of the schist and the orientation and nature of joints is the same at the two localities and the cores are equally fresh and firm.

Surficial Cover.

So far as geologic data is concerned, the distinction between the Pine Grove and Richards' corner sites lies in the character of the material mantling the bed rock. East of the stream the wash drillings along the tunnel line are gravel with some sand. The section exposed in test pit No. 18 is pervious gravel with boulders, and even the fine sand at a depth of 30 feet contains boulders whose surfaces are weathered and stained, indicating the circulation of ground water to this depth. West of the stream the conditions are different. Test pits Nos. 16, 19, and 21, are sunk in very fine, compact sand, and (as shown on Geologic Profile) this material is encountered at two horizons in drill holes D and E, and occurs near the top of holes A and C. A comparison of pits and of drill holes shows that no widely spread stratum of this very fine sand

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exists at any definite horizon. It seems to be distributed as lenses 4 to 20 feet thick, with a diameter of perhaps 10 to 200 feet, set in the midst of coarser sand and gravel. There is apparently no determinable arrangement of these lenses. The degree of porosity of these finer sands can only be determined by physical tests. My experience is in line with the results of studies in the Nashua Valley, Mass., made by Crosby for the Metropolitan Water Works (*Technology Quarterly*, Vol. XII, 1899, pages 68-96; Vol. XV, 1902, 260-264; Vol. XVII, 1903, pages 240-254; Vol. XVII, 1904, 37-73), and indicates that in the absence of proof to the contrary even very fine "compact" sand is to be considered pervious. In any case, before the lenses of fine sand are to be relied upon to prevent the passage of water, there should be evidence that these bodies of sand are not so related to the gravel as to allow water to pass around them from one gravel mass to another.

Material for Construction.

Nothing in the nature of clay has so far been exposed at or near the Pine Grove site, and unless the sand referred to above should prove satisfactory, further search must be made for material suitable for puddle core. Rock for concrete may be obtained from boulders or from the ledges of gneiss and pegmatite occurring with schist on the hill above the west end of the dam site.

Respectfully submitted,

(Signed) HERBERT E. GREGORY,
Geologist.

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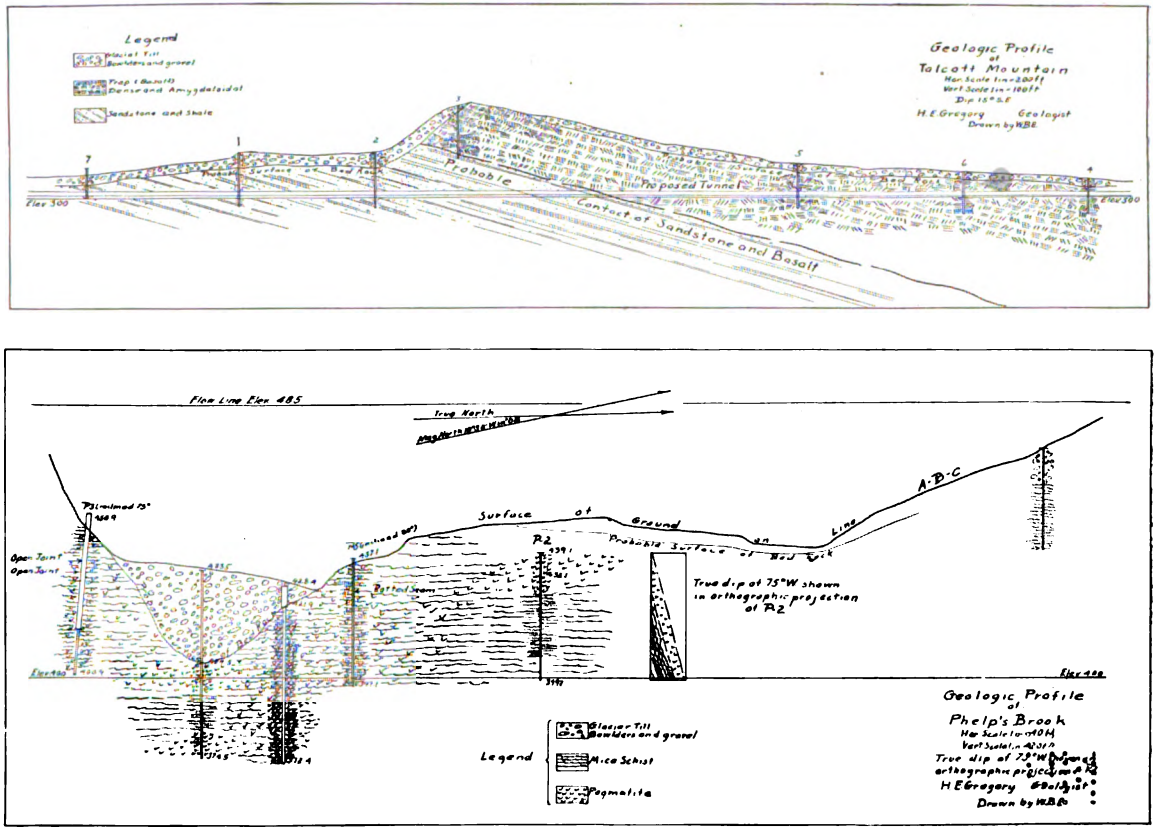

(A) TALCOTT MOUNTAIN TUNNEL AND PHELPS BROOK DAM SITE.

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New Haven, Conn., July 5, 1912.

Mr. C. M. Saville, Chief Engineer,
Board of Water Commissioners,
City Hall, Hartford, Conn.,

Dear Sir—I herewith submit my final report on the geology of the proposed

TALCOTT MOUNTAIN TUNNEL.

Geologic Structure.

The structural relations along the line of the Talcott Mountain tunnel are as follows (See also Geologic Profile):

A lava (basalt) flow forms the ridge at Station 22 and the eastward slope (Stations 22 to 0). Underlying the lava is shaly sandstone, shown at the bottom of hole No. 3, and forming the western slope (Stations 23 to 33). Both basalt and sandstone are of Triassic age; both were laid down on practically a flat floor, but have since been tilted to the southeast (+) at an angle of about 15°. Shales formerly overlay the basalt and in my preliminary report it was assumed that a thin layer of this rock existed between Stations 2 and 12; but although the overlying shales are exposed near at hand, the drills reveal no shale along the immediate line of the tunnel. The superficial mantle over basalt and sandstone alike is glacial till, consisting chiefly of boulders of basalt and sandstone set in a groundmass of gravel and sand of the same composition.

Character of the Rock.

The drill cores consist of two types of rock, viz., shaly sandstone and basalt as follows:

Shaly sandstone occurs at Borings No. 7, No. 1, and No. 2, and at the bottom of No. 3; the material in these four holes being practically the same, viz., thin-bedded or shaly sandstone, with beds of shale, red-brown to dark red in tone, and composed of fragments of quartz and feldspar with some mica and rarely other minerals, held together chiefly by

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ferruginous clay. Calcite as imperfect crystals, or represented by cavities, also clay pellets, are minor constituents of the rock. Firmly cemented, coarse sandstone occurs in hole No. 1 at 85 feet, in hole No. 2 at 35 to 36 feet, 42.5 feet, 62 feet, 94 feet; also at the bottom of hole No. 3, and at several places in hole No. 7. With the exception of these beds of firm sandstone all the rock is liable to flake and slump off when soaked in water. Rotten rock is particularly noticeable in hole No. 2 where cavities occur at 40 to 42 feet, 49 to 52 feet, 62, 72, 75, and 82 feet. The cavities, joints, and bedding planes are so located as to allow surface water, at least in small quantities, to descend to the tunnel opening.

Basalt. Borings Nos. 4, 5, and 6, are entirely in basalt; boring No. 3 traverses 66 feet of basalt before entering the sandstone. Where fresh, the rock is dark blue in tone; where weathered, it assumes purple, brown, and yellow hues. In places the rock is dense, firm (e. g., hole 5, 19 to 22 feet; hole 4, 40 to 60 feet); commonly, however, it is full of cavities, pipes, seams, cracks, and joints, either open or filled with calcite, anhydrite, barite, or quartz. These cavities and tubes represent the work of escaping steam while the basalt was still molten. The filling of the cavities, producing amygdaloidal structure, is the later work of underground and surface waters. Cracks, either open or filled with dissolvable material and readily converted into water channels, exist in hole No. 5 to a depth of 57 feet, in hole No. 6 to 66 feet; hole No. 3 appears quite fresh below 24 feet. As with the sandstone, so with the basalt, the distribution of actual and possible openings for the passage of water is such that surface water would doubtless reach the tunnel at several localities.

Lining, Etc.

It is assumed that the tunnel will be lined throughout; in the sandstone this is essential to prevent caving and solution; in the basalt the walls would be sufficiently firm but with water under pressure tiny channels extending to the surface

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would develop in the rock. It is quite unlikely that water in amounts sufficient to hamper construction will be encountered in either sandstone or basalt.

Materials for Construction.

Rock material for concrete may be obtained from the trap (basalt) ridges running N. E.-S. W. through Station 22, and southeast of Station 2. Suitable sand is most likely to be obtained near the west portal of the proposed tunnel.

Respectfully submitted,

HERBERT E. GREGORY,
Geologist.

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REPORT OF CONSULTING ELECTRICAL ENGINEER.

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Plate No. 3—Diagrams showing average results of potential measurements of water pipes referred to trolley rails, to electric light cable sheaths, and to telephone cable sheaths.

Plate No. 4—Map of Hartford showing average results of potential measurements of water pipes referred to trolley rails.

Plate No. 5—Map of Hartford showing average results of potential measurements of water pipes referred to cable sheaths of Hartford Electric Light Company.

Plate No. 6—Map of Hartford showing average results of potential measurements of water pipes referred to cable sheaths of Southern New England Telephone Company.

Plate No. 7—48-hour record of potential difference between negative bus-bar and water service pipe in Railway Power Station, Commerce Street, November 16–18, 1912.

Plate No. 8—24-hour records of current flow on 30-inch water main, John Street, South of Buckingham Street. November 19–20, 1912, before changes in electric light bonds were made; December 12–13, 1912, after changes in electric light bonds were made.

Plate No. 9—24-hour record of current flow on 16-inch water main, Broad Street, north of Capitol Avenue, December 13–14,1912.

Plate No. 10—24-hour record of current flow on 24-inch water main, Arch Street, east of Main Street, November 25–26, 1912.

Plate No. 11—24-hour record of current flow on 24-inch water main, Commerce Street, north of Potter Street, November 26–27, 1912.

Plate No. 12—24-hour records of current flow on 30-inch water main on Park Street, near Barker Avenue, November 19–20, 1912, near Orange Street, November 20–21, 1912, and near Washington Street, January 9–10, 1913.

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Castle Point, Hoboken, N. J., Jan. 24, 1913.

Mr. Caleb M. Saville, Chief Engineer,
Board of Water Commissioners,
Hartford, Conn.

Dear Sir—I have the honor to report that in accordance with your request, I have made an electrolysis investigation of the water piping system in the City of Hartford, for the purpose of determining whether these pipes carry stray electric currents, and whether they are endangered from electrolysis due to such currents.

At your request I made a preliminary examination in Hartford on August 27, 1912, for the purpose of deciding what tests should be made in order to determine the electrolytic condition of the piping system. The results of this examination were given in a letter dated August 31, 1912, in which I proposed a plan for a general electrolysis survey of the water piping system, and also gave an estimate of the probable cost of the survey. In a letter dated October 21, 1912, you informed me that you wished me to undertake the survey in accordance with the plan outlined and to begin the work as soon as possible. The necessary plans showing the layout of the water piping, rail and cable systems in Hartford were furnished me, and the field work was begun on November 6, 1912. At your request I submitted a progress report on December 4, 1912, giving briefly the results of the survey as found to that date. The general survey has now been completed, and I beg to submit in the following the results which I have found, and the conclusions which can be drawn from them together with my recommendations.

Summary and Conclusions.

The investigation which I have made shows that the only source of substantial stray electric current affecting the water piping system is the electric trolley railway system of the Connecticut Company, which is supplied with direct-current power from the electric power station of the Connecticut Company, in Commerce Street, Hartford. At the present

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time the negative bus-bar in the railway power station is insulated from ground, and insulated overhead return feeder cables connect the negative bus-bar to the track system as follows:

Six one-million cir. mil cables to car barns on State Street near Market Street.

Two one-million cir. mil cables to corner of Boulevard and Kilbourne Street.

Five No. 0000 cables to Main Street near Sheldon Street.

I am informed that formerly eight iron rails, each about 10 square inches in cross-section, laid underground in Commerce Street and in Grove Street, were used as return feeders from the power station to the car barns, but that these were removed about a year ago, and were replaced by the six overhead insulated cables above noted. It is evident that these large buried rails produced a very low resistance ground connection to the negative bus-bar, and a very dangerous condition for the underground structures in their vicinity. I am informed that while these rails were in use constant and serious trouble was experienced from electrolysis of gas and water pipes in Commerce and Grove Streets. The substitution of overhead return feeder cables for these buried rails has undoubtedly greatly reduced the total stray electric currents in Hartford. I am also informed that formerly a current of several hundred amperes was found entering the railway power station by way of the 5-inch water service pipe, due to the fact that this pipe was in metallic contact with the iron work of the power station building, and that this iron work was also in metallic contact with the negative bus-bar through the rails of a small electrically operated coal conveyor used in the building, in which the rails were used as the return conductor. I am informed that this metallic connection was removed shortly before this survey was begun, and that this large flow of stray current from the water piping was thereby stopped.

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The Hartford Electric Light Company and the Southern New England Telephone Company have in Hartford extensive systems of underground lead covered cables which are drawn in vitrified clay conduits. In order to protect the lead sheaths of these cables against electrolysis, the cable sheaths of each company are connected together by copper straps in every manhole, and at a number of points they are also connected or bonded to the electric railway return circuit by copper cables, for the purpose of draining off the stray electric current which has reached the sheaths from the tracks of the trolley railways.

At the time this survey was begun, the electric light cable sheaths were bonded to the railway return feeders in the immediate neighborhood of the railway power station, and these bond connections drained a total of about 700 amperes from the cable sheaths. This caused these cable sheaths to be highly negative in potential to other underground structures, and resulted in a highly positive and extremely dangerous condition for the water piping system. At my request the Hartford Electric Light Company removed these bond connections and substituted new bonds, located at a greater distance from the railway power station and near the points where negative return feeder cables connect to the trolley rails. This change in bond connections reduced the current drained from the electric light cables to about 250 amperes, and greatly reduced the positive potential of the water piping system referred to the electric light cable sheaths; it also greatly reduced the total stray current flowing on the water piping system. At the time these electric light bond connections were changed, the Southern New England Telephone Company also changed one of their bond connections because they found that their telephone cable sheaths were highly positive to other structures in one locality. This change in telephone bond connection affected the potential relation between the water piping and the telephone cable sheaths in the immediate vicinity of the locations of these bond connections, but not at other points, and did not appear to have any appreciable effect upon the amount of stray electric current flowing on the water pipes.

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The above changes in the bond connections of the underground cable systems were made after the work of this survey had been in progress for about two weeks, and it was found that they had completely altered the electric potential and current conditions of the water piping system, so that it became necessary to repeat all measurements already made. The results of the potential and current measurements discussed in the following are generally the value found after the bond changes were made, because these represent present conditions.

A record of the potential difference between the negative bus-bar and a water service pipe in the railway power station showed that the negative bus-bar is about 9 volts average negative in potential to the water service pipe, which denotes a fairly high resistance between the negative bus-bar and ground. This high resistance is a very desirable condition for minimizing stray currents through ground.

Owing to the bond connections of the electric light and telephone cable sheaths to the railway return circuit, these underground cable sheaths form a part of the railway return circuit, and they together with the trolley rails, become a possible source of danger to the water piping system. It was therefore necessary to make potential measurements of the water pipe referred to these cable sheaths as well as to the rails at all points where these cable sheaths were near water pipes.

The potential measurements of the water pipes referred to the trolley rails show that in general the pipes are negative in potential to the trolley rails, except in the immediate neighborhood of the connection points of negative return feeder cables to the rails on State Street and the Boulevard, where the pipes are from 1 to 3 volts average positive in potential to the rails, which positive condition extends for about 1,000 feet from these connection-points along State Street, Boulevard, Market Street and Morgan Street. Beyond this local positive region the pipes are generally from 2 to 5 volts average negative in potential to the rails, the values of negative poten-

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tial generally increasing towards the ends of the lines. On several of the outlying lines there are also reversals of the polarity of the water pipes referred to the trolley rails.

The results of the potential measurements of water pipes referred to the electric light cable sheaths, show that these pipes are everywhere positive in potential to these cable sheaths, the average values of these positive potentials varying from 1 to 4 volts. This is due to the fact that these electric light cable sheaths are a part of the railway return circuit, and it has already been stated that these cable sheaths pick up stray railway current averaging 250 amperes, which current is drained from these sheaths over the bond connections. A striking fact shown by these potential measurements is that the positive pipe potentials, referred to the electric light cable sheaths, are generally lowest in the neighborhood of the bond connection-points of the cable sheaths. This potential condition is probably due to the fact that there are accidental metallic connections between the water piping system and the electric light cable sheaths in the vicinity of these bond connections, such contacts being due probably to pipes and cables touching each other or touching iron work. Attempts to locate such connections were made, but it proved extremely difficult to find the actual points of contact. In one case such contact was found in a manhole and in two cases in buildings. The indications are however that a large number of such contacts exist, as the removal of one contact did not appear to materially effect the total stray current, indicating that there are many parallel paths for this current flow.

The measurements of potential of the water pipes referred to the cable sheaths of the Southern New England Telephone Company showed that in the central part of the city on Main Street, Morgan Street, Albany Avenue and part of Windsor Avenue, the water pipes are generally from a fraction of a volt to about one volt average negative in potential to these cable sheaths, while at points outside of this region the water pipes are generally positive in potential to these cable sheaths, the average values of the positive potentials varying from

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about 1 to 4 volts. On State Street at Main Street and at Front Street, where the telephone cable sheaths are bonded to the railway return circuit, the water pipes are also slightly positive in potential to the cable sheaths. The positive condition of the water pipes referred to the telephone cable sheaths as found generally throughout Hartford is caused by the bond connections from the cable sheaths to the railway return circuit. The slightly negative condition of the water pipes referred to the cable sheaths in the central part of the city is probably due to the effect of the current flowing on the bonded electric light cable sheaths.

The results of the potential measurements indicate that generally in Hartford there is a tendency for stray railway current to flow from the trolley rails to the water pipes, except locally in State Street, Market Street, Morgan Street and Boulevard, where there is a tendency for current to flow from the pipes to the rails. On a few of the outlying trolley lines, where the water pipes reverse in polarity with reference to the trolley rails, there is a tendency for current to flow at times from the rails to the pipes, and at other times from the pipes to the rails. The positive condition of the water pipes referred to the cable sheaths of the Hartford Electric Light Company throughtout Hartford indicates that there is everywhere a tendency for current to flow from the water pipes to these sheaths. In general a substantial current was made to flow whenever a water pipe and the electric light cable sheaths were connected. This is probably due to the high conductivity of the cable sheath system, resulting from connecting the bare neutral copper cables of the three-wire lighting system to the sheaths in every manhole, by which the cable sheaths and the neutral cables became parallel conductors. In the center of the city the temporary bond currents were however small, which gives another indication that there are accidental contacts between the pipes and the electric light cable sheaths. The water pipes were also generally found positive in potential to the telephone cable sheaths in Hartford, except in the center of the city; a test for temporary bond current showed however that in general only very small

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currents could be made to flow between the water pipes and the telephone cable sheaths. This indicates that there is comparatively little tendency for current to flow from the water pipes to the telephone cable sheaths. The results of all of the potential measurements indicate quite clearly that the greatest danger to the water pipes exists where these pipes are in proximity to underground cable sheaths of the Hartford Electric Light Company, because the water pipes are everywhere positive to these sheaths, and there is a considerable tendency for stray railway current to flow from the pipes to these sheaths.

Measurements of current flow on water mains were made at about thirty places on the water piping system, at most of which places it was necessary to expose the main for these tests. At all such points permanent electrical test stations have been established by means of which current measurements can be made in the future without again exposing the main. In nearly all cases the current measurements on water pipes were made for a period of twenty-four hours by means of recording instruments. All of these current records show clearly the characteristic variations of the trolley railways of Hartford, thereby identifying the current flowing on the water pipes as stray current belonging to the electric trolley railways. On many of the pipes an abnormally large stray current was found, averaging in a number of cases from 25 to over 60 amperes. The fact that the change in the electric light bond connections produced a decided reduction in the current flow on a number of the pipes, indicates that a large part of the current flowing on the water pipes is delivered to the cable sheaths of the Hartford Electric Light Company. During the early part of the survey stray electric current averaging from 25 to 30 amperes was found flowing out of the railway power station on the 5-inch water service pipe toward the 24-inch water main on Commerce Street. An investigation showed that this current flow was caused by the fact that the electric lamps in the station were connected between a positive feeder wire and the steel structure of the building, and since the negative bus-bar is insulated from ground, and the

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water service pipe is in contact with the steel structure of the building, the current taken by the lamps flowed out of the building on the water service pipe to the water main, and then left this main to return by way of the negative return feeders to the power station. Inasmuch as this current was likely to cause damage to the water main where it left this main, an insulating joint was installed in this water service at my request, and this current flow was thereby entirely stopped, as verified by tests made after the joint was installed. The results of the potential survey also indicate that there are a large number of more or less good electrically conducting connections between the water piping system and the electric light cable sheaths, as already stated. A search was made for such possible connections, and two cases were found in which a total current averaging 27 amperes was found flowing from the water pipes to the electric light cables, while in a third case the amount of this current could not be measured. At a number of places there also appeared to be metallic connection between water pipes and trolley rails by means of gate boxes which come to the surface of the street close to the rails. No actual current flow between rails and water pipes was however found at these places, although it is possible that there may be such a flow at other undiscovered points. There are also places where there are metallic connections between the water pipes and the telephone cable sheaths. In view of these actual and probable metallic connections it is impossible to tell how much of the stray electric current found flowing on the water pipes leaves them by electrolytic conduction and produces corresponding damage to the piping system. It would be very desirable to remove all metallic connections existing between the water pipes and the underground cables or the rails, because this will unquestionably largely reduce the total stray current flowing on the water piping system, and where such contacts exist in buildings their removal will eliminate a serious fire hazard.

It has already been stated that the electrolytic condition of the water piping system in Hartford was materially changed about a year ago by the substitution of overhead insulated

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return feeders for the buried rails from the power station to the car barns on State Street near Market Street. They were again changed to some extent a short while before this survey was begun when the metallic connection between the water service pipe and the negative bus-bar in the railway power station was removed, thus preventing the large current flow from the water piping system into the electric railway power station. They were again materially altered when the bond connections of the Hartford Electric Light Company were re-located on November 21, 1912, as a result of the first part of this survey. The effect of all of these alterations has been to very greatly diminish the total stray railway current flowing on the water piping system, thereby largely reducing the electrolytic danger to which this piping system was subjected: the effect has also been to move the danger area, which was formerly concentrated in the neighborhood of Commerce and Grove Streets, to sections of the city further away from the center. It is my opinion that although the stray railway currents have been greatly reduced, they are still abnormally large: the reason that actual trouble from electrolysis has not become evident recently is that the danger areas of the pipes have been changing as noted above, and that electrolytic corrosion is usually a slow process requiring a number of years to develop noticeable trouble. If the present condition continues I believe that considerable trouble from electrolysis will develop and that it will be found most acute where water service pipes cross or otherwise come close to the electric light cable sheaths, because these cable sheaths are the most negative in potential to the water pipes throughout Hartford, and there is a great tendency for stray railway current to flow from the water pipes to these sheaths.

I am informed by Mr. D. S. Miller, Electrical Engineer of the Connecticut Company that within the next year or two this company expects to place all of the positive and negative feeder cables running out from the power station in underground conduits for some distance out from this station. Mr. Miller also informs me that at the time this change is

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made, they propose to install insulated negative return feeder cables proportioned for equal drop between the power station and the tracks at the following points:

Main Street corner of Park Street;
Main Street corner of Morgan Street;
Albany Avenue corner of Windsor Avenue;
Asylum Street corner of Garden Street.

They also propose to maintain the negative bus-bar insulated from ground at the railway power station. It will be noted that these proposed return feeders are laid out according to the radial insulated return feeder plan, and it is my opinion that if this plan is carried out, the total stray railway current on the water piping system in Hartford will be very greatly reduced. I have not studied the distribution of load of the Hartford trolley railway system, and am therefore not in position to judge whether this proposed installation of radial insulated return feeders is adequate to reduce the stray currents on the water piping sufficiently to make this piping reasonably safe against electrolysis. It seems to me however that it would be very desirable to have insulated return feeders connect to the rails also at Park and Broad Streets, and possibly also at Capitol Avenue and Lafayette Street, in order to more nearly equalize potentials in the rails. A very important point from the standpoint of minimizing stray currents, is the maintenance of the insulation between the negative bus-bar and ground at the power station, as it is at present, and the proportioning of all of the return feeders for equal drop under average load conditions. If this is done the various return feeder connection-points will be maintained at the same potential under average load conditions, thus avoiding any tendency for current to flow through the rails or through ground between these points. If these changes in return feeders are made it would then become necessary to entirely change and possibly remove the bond connections to the electric light and telephone cables.

In view of the fact that on a number of the outlying lines the polarity of the water piping referred to the trolley

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rails was found to reverse frequently, it seemed desirable to test the condition of the rail bonding and of the special rail work in order to determine whether there are any serious breaks in the electrical continuity of the rail network. The rail bonds of the entire Hartford trolley railway system with the exception of East Hartford were therefore tested by means of a Herrick test car owned and operated by the Connecticut Company and I was present and obtained the results of the test. In all 838 defective rail bonds were recorded by the test car, most of which were localized in stretches on a few of the outlying trolley lines. The remainder of the track work was found in good condition. The condition of the bonding across special work cannot be determined by means of the test car but should be tested by means of indicating instruments. As this takes considerable time, such tests were only made in a few places, and here the bonding was found to be in good condition. The effect of the stretches of broken rail bonds on the outlying lines must be to cause current to leave the tracks and flow as stray current through ground and on underground structures. It is therefore important in order to minimize stray electric currents through ground that these defective rail bonds be repaired as promptly as possible.

Recommendations.

In view of the results described in the foregoing I beg to offer the following recommendations:

That the Connecticut Company be notified that substantial stray electric currents are escaping from the rails of their electric trolley railway system in Hartford, which are flowing on your water piping system and are endangering this piping system from electrolysis, and possibly also producing a fire hazard in buildings, and that you will hold them responsible for all damage to your water piping system caused by stray electric currents escaping from their railway system.

That you notify the Hartford Electric Light Company that the bonding of their cable sheaths to the railway return circuit makes their cable sheaths a part of the railway return

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circuit, and that you will hold them responsible jointly with the railway company for any damage resulting from stray railway current flowing from your pipes to their cable sheaths.

That you notify the Southern New England Telephone Company that the bonding of their cable sheaths to the railway return circuit makes their cable sheaths a part of the railway return circuit, and that you will hold them responsible jointly with the railway company for any damage resulting from stray railway current flowing from your pipes to their cable sheaths.

That you request the Hartford Electric Light Company to make every effort to locate all metallic connections between the water piping system and their underground cable sheaths, and remove such connections as promptly as possible.

That you urge the Connecticut Company to install as soon as possible the underground insulated return feeders proportioned for equal drop as contemplated at the present time, maintaining the insulation of the negative bus-bar from ground, and also to consider the advisability of additional insulated return feeders in the vicinity of Park and Broad Streets and Capitol Avenue and Lafayette Street.

That, once in every three months, you make tests for current flow on the water mains at the electrical test stations which have been established, and record the results obtained and compare them with those found during this survey, and where a substantial increase in current is found, that an investigation be made to determine the cause of such increase of current.

That after the Connecticut Company has installed its proposed underground radial insulated return feeder system, a complete study be made of the electrolytic conditions which will be produced by the change, which investigation should be made jointly upon the water piping system, the electric light cable system, the telephone cable system, and the gas piping system.

Appended to this report are the detailed results of the tests which have been made.

Respectfully submitted,

(Signed) ALBERT F. GANZ.

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DETAILED REPORT.

Explanation of the Cause and Effects of Stray Electric Currents.

Experience shows that electric railways, which use the running tracks in part or in whole for the return circuit, are the principal sources of stray electric currents generally found in practice. In such railways electric current is supplied to the cars from an overhead trolley wire or from a third rail, and is returned to the power station by way of the running tracks, which latter are generally connected to the negative bus-bar at the power station. In extensive and well constructed electric railways the running tracks are supplemented by negative return feeder cables connecting from the power station to the tracks at points distant from the power station. In order to make the running tracks a continuous electrical conductor, the rail lengths are either welded together or are bonded across by copper cables or copper straps, and the rails of the track are cross-connected at frequent intervals by means of copper cables. Since the rails are ordinarily in contact with ground for their entire length, and street soil is a conductor of electricity, part of the return current shunts through ground in accordance with the law of divided circuits. This current which leaks from the rails through ground to return to the electric power station is called stray electric current.

If metallic conductors, such as water or gas mains made up of iron pipes with electrically conducting joints, lie in the ground through which stray currents pass, such mains form good conducting paths for stray electric currents, which will therefore flow largely on these mains. The electric circuit of a typical single trolley electric railway without return feeders, and the path of stray current which leaks from this railway through ground and through underground piping lying in its path, is illustrated in Diagram No. 1 on a following page. It will be noted from this diagram that in districts distant from the power station electric current leaves the tracks and flows through the intervening soil to the pipes, thereby

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making the pipes negative in potential to the tracks; these districts are therefore called negative districts. In the vicinity where negative feeder cables connect to the rails, current leaves the pipes and flows through the intervening soil to the tracks, thereby making the pipes positive in potential. In the region surrounding the power station, current leaves the pipes and flows through the intervening soil to the tracks, thereby making the pipes positive in potential to the tracks, these districts are therefore called positive districts. Between these two districts the stray current flows from tracks to pipes or from pipes to tracks depending upon the distribution of the cars, etc. The intermediate districts are called neutral districts. As will be evident from Diagram No. 1, the current on the pipes is generally largest in these neutral districts. Wherever electric current leaves a pipe to flow to the surrounding soil electrolytic corrosion is produced at a rate corresponding to an oxidation and consequent destruction of twenty pounds of iron per year for each ampere of electric current leaving the pipe.

Since every electric circuit must be completely closed, all current which leaves the positive terminal of an electric generator must return to the negative terminal. For this reason all current which escapes from the tracks in negative districts and reaches the pipes, must again leave the pipes somewhere in order to return to the negative terminal of the generator. The electric current is in this respect very different from gas or water, which latter can leak from a pipe and become diffused through the ground.

Lead calked joints and screw coupling joints generally have a comparatively low resistance so that mains consisting of pipes with these joints ordinarily form continuous electrical conductors. It sometimes happens, however, that these joints develop such a relatively high resistance as to practically interrupt the electrical continuity of the main. Cement joints as ordinarily made do not produce electrical connection between the two pipe lengths, and such joints may be practically classed with insulating joints. A pipe line laid entirely with cement joints or entirely with insulating joints

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is therefore a discontinuous electrical conductor. Cement pipes, which are sometimes used for water mains, have ordinarily a high electrical resistance which is of the same order as the resistance of the surrounding soil, so that there is no tendency for such mains to carry substantial stray electric currents.

The electrical resistivity of cast iron is about ten times as great as that of wrought iron or steel, and the usual lead joints in cast-iron pipes also have a resistance which is many times greater than the screw-coupling joints usual in wrought-iron and steel pipes. For these reasons a given voltage drop through ground will cause a much smaller current to flow on a cast-iron pipe than on a wrought-iron or a steel pipe, thus practically making cast-iron pipes much less subject to electrolysis than wrought-iron or steel pipes. It must also be noted that when a cast-iron pipe is corroded by electrolysis, the iron is oxidized but remains in place as a graphitic mass having little mechanical strength, but possessing the ability to maintain the pipe gas-tight and frequently even water-tight for considerable periods, while with wrought-iron or steel pipes this does not occur, so that holes and consequent leaks are more quickly produced. Frequently where cast-iron pipes appear to be immune from electrolysis because no evidences of leakage have developed, an examination of the pipes would reveal that a great deal of corrosion has actually taken place and that the pipes have been very greatly weakened.

In negative districts the current flows from the rails through the ground to the pipes, and the rails are corroded while the pipes are not corroded. In positive districts the current flows from the pipes through the ground to the rails and the pipes are corroded by the current. For this reason a positive or danger district is established at every point where a return feeder is connected to the rails. It has also been found that there may be points in the negative and intermediate districts, where current leaves a pipe to flow to some other underground structure or to flow across a high resistance joint, and produces electrolysis at such points of leaving. The danger region of a piping system is in fact by no means

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confined to the so-called positive districts, but at every point where current leaves a pipe to pass into soil, electrolytic corrosion must take place.

An iron pipe is generally not in uniform electrical contact with the surrounding soil, so that the current generally leaves in spots where there is a good conducting path from the iron to the soil, giving rise to concentrated corrosive action at these spots whereby pittings and eventually holes are produced.

Theoretically one ampere-year will corrode twenty pounds of iron or seventy-four pounds of lead. Secondary chemical reactions may, however, greatly increase this amount of corrosion. It must also be understood that this loss by corrosion occurs at every point at which the current leaves the pipe for ground, and that the same ampere of stray current can leave and again return to a pipe any number of times in its path, depending upon the electrical conditions; so that any number of times twenty pounds of iron or seventy-four pounds of lead may be corroded by a single ampere of stray current in one year.

Since electric currents cause damage where they leave pipes to flow to the surrounding soil by electrolytic conduction; attempts are sometimes made to remove the current harmlessly and prevent corrosion from electrolysis by connecting or bonding pipes or other structures by means of copper cables to the rails or to the negative return circuit. This method is frequently used to protect lead cable sheaths, and is effective for cable sheaths because these form continuous and uniform electrical conductors. The method is however not generally applicable to underground piping systems, because the latter do not form continuous electrical conductors, but are more or less discontinuous networks. The bonding of a pipe or cable sheath to the negative return circuit as a means of protection always renders the bonded pipe or cable a part of the negative return circuit and therefore renders it negative in potential and a source of danger to other underground structures which are not so bonded. In Diagram No. 2 is illustrated the path of stray electric current on an underground pipe and on an underground cable, the sheath

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of which is bonded to the negative return circuit at the power station. It will be seen that current everywhere flows from ground to the cable sheath because of its highly negative potential condition. It will also be seen that some of the stray current in its path from the tracks to the cable sheath flows onto and from the pipe. In the case shown in Diagram No. 2 there is but little current flowing from the pipe to the tracks, but considerable current flowing from the pipe to the cable sheaths, and this current leaves the pipe over a scattered area. In this case the pipes will at nearly all points be negative in potential to the rails, but positive to the cable sheaths. Where a service pipe from a main crosses ducts containing cable sheaths which are bonded to the negative return circuit, these bonded cable sheaths frequently cause current to leave the service pipe at the point of crossing and thus produce rapid destruction of the service pipe at this point. In practice underground cables whose lead sheathing is bonded to the railway return circuit are found to be a source of very great danger to water and gas piping systems.

In the electric railway systems of Europe the practice has almost universally been to insulate the negative bus-bar at the power station, and to install an insulated return feeder system so proportioned as to reduce the potential difference in the rail system to a small value. The result of this has been to keep stray electric currents from such railway systems down to negligible amounts. In America such insulated return feeder systems have also come into use and are now recognized as affording by far the most effective means for minimizing stray currents from grounded electric railways.

Layout of Water Piping System and Probable Sources of Stray Electric Currents on this Piping System.

The layout of the water piping system of the City of Hartford is shown on the skeleton map of Hartford in Plate No. 1. The electric trolley railway system of the Connecticut Company, operating in and about Hartford, is a source of stray electric currents affecting this piping system. The layout of these trolley railways within the city limits of Hartford,

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together with the location of the power station supplying electric current for the operation of these railways, is shown in Plate No. 2. There are no trolley tracks in the immediate vicinity of the railway power station; insulated return feeder cables connect from the negative bus-bar in the power station to the track system as follows:

Six one-million cir. mil cables to Car Barns on State Street near Market Street;

Two one-million cir. mil cables to corner of Boulevard and Kilbourne Street;

Five No. 0000 cables to Main Street at Sheldon Street.

These connection-points of negative return feeders to the rails are shown in Plate No. 2. The negative bus-bar is insulated from ground at the power station.

I am informed that there were formerly eight iron rails each of 10 square inches cross-section laid underground in Commerce and Grove Streets, connected to the negative bus-bar at the railway power station and to the tracks at the Car Barns, serving therefore as return feeders; these were removed during the past year and replaced by the above noted six one-million cir. mil insulated cables. It is evident that these large buried rails produced a very low resistence ground connection to the negative bus-bar, and I am informed that while these rails were in use there was a great deal of trouble due to the destruction of gas and water pipes by electrolysis in the streets through which these rails were laid.

I am informed by Mr. D. S. Miller, Electrical Engineer of the Connecticut Company, that within the next year or two this company expects to place all of the positive and negative feeder cables running out from their power station in underground conduits for some distance out from this station. Mr. Miller also informs me that at the time this change is made, they propose to maintain the insulation of the negative bus-bar from ground at the power station, and

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to install insulated negative return feeder cables proportioned for equal drop between the power station and the tracks at the following points:

Main Street corner of Park Street;
Main Street corner of Morgan Street;
Albany Avenue corner of Windsor Avenue;
Asylum Street corner of Garden Street.

The locations of these proposed underground return feeder connection-points are shown in Plate No. 4.

The Hartford Electric Light Company has an extensive underground distributing system consisting of lead covered cables drawn in conduits. the locations of which are shown in Plate No. 2. In order to protect the lead sheaths of these cables against electrolysis, they are connected to each other by copper straps in every manhole, and at a number of points these cable sheaths are also connected or bonded to the electric railway return circuit by heavy copper cables for the purpose of draining off the stray electric current which has reached the sheaths from the tracks of the trolley railways. At the time this survey was begun, the electric light cable sheaths were bonded to the railway return feeders at the following points:

Corner of Front Street and Grove Street;
Corner of Potter Street and Mechanic Street;
Corner of Potter Street and Commerce Street.

These locations are all in the immediate vicinity of the electric railway power station, and I am informed that a total current of approximately 700 amperes was drained from the electric light cable sheaths by means of these three bonds. These bond connections in the immediate neighborhood of the railway power station caused the cable sheaths to be highly negative in potential, with the result that the water piping was abnormally positive to them, thus producing an extremely dangerous condition for the water piping system. At my request, the Hartford Electric Light Company removed these

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bond connections and substituted new bonds at the following points, located at a greater distance from the railway power station:

Corner of Main Street and Pearl Street:
Corner of Main Street and Asylum Street;
State Street near Market Street;
Morgan Street near Boulevard.

I am informed that these new bond connections drain a total of about 250 amperes from the electric light cable sheaths. This change in these bond coneections has very greatly reduced the former highly positive condition of the water piping system with reference to the electric light cable sheaths. The Hartford Electric Light Company also has in parts of Hartford underground 3-wire systems of distribution for both direct and alternating currents, in which the neutral wire is a large bare copper cable drawn in conduits. These bare neutral cables are connected to the lead cable sheathing and are in contact with ground, and therefore share with the cable sheaths in carrying stray electric current from the electric railways. Since these neutral cables are of very large cross-section they greatly increase the conductivity of the cable sheath system, and correspondingly increase the tendency for the flow of stray electric current to these sheaths. I am informed that formerly these bare neutral cables were connected to the water piping system at many points, but that it was found that a large flow of stray electric current was thereby produced on the water piping system, and that for this reason these connections were removed so far as known.

The Southern New England Telephone Company has an extensive underground cable system in Hartford, whose layout is shown in Plate No. 2. In order to protect the lead sheaths of these cables against electrolysis, they are bonded together by copper straps in every manhole, and are also connected to the tracks at the following points:

Corner of Front Street and State Street;
Corner of Main Street and Asylum Street;
Corner of Main Street and Pearl Street.

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When the survey was begun there was a bond connection at the corner of Commerce Street and Grove Street, but this was abandoned and the bond connection at the corner of Front Street and State Street substituted at the time the electric light bonds were changed. This change affected the potential relations between the water piping and the telephone cable sheaths in the immediate vicinity of Commerce and Grove Streets, and of State and Front Streets, but not at other points. Since the change did not appear to have any appreciable effect upon the amounts of stray electric current found on the water mains, it will not be further considered in this report. I am informed that the current drained from the telephone cable sheaths by these bond connections is at present about 150 amperes.

Scope and Methods of Survey

The principal tests constituting this survey consist of the following:

Potentials of water pipes referred to trolley rails;
Potentials of water pipes referred to electric light cable sheaths;
Potentials of water pipes referred to telephone cable sheaths;
Current flow on water pipes;
Condition of rail bonds of trolley track system.

The potentials of the water piping referred to the electric light and telephone cable sheaths, as well as referred to the trolley rails, were determined because the sheathing of these two cable systems is bonded to the negative return circuit of the trolley railway, and therefore this sheathing forms a part of this circuit.

The potential measurements were made by means of four one-hour Bristol smoked-chart recording volt-meters which were checked by means of a Weston indicating volt-meter. At each point where tests were made these recording volt-meters were connected between the water pipe and trolley

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rails, between the water pipe and electric light cable sheaths, between the water pipe and telephone cable sheaths, or between the water pipe and as many of these as were available, so that simultaneous measurements of from fifteen minutes to one hour duration were obtained. The maximum, minimum and average values of these potential records as taken from the charts are given in this report. Tests for potential difference between trolley rails, electric light cable sheaths and telephone cable sheaths, were also made with an indicating volt-meter for a few minutes at each place to serve as a check on the values of these potentials obtained from the records. The potential measurements were preceded in every case by measurements of current drawn through a wire temporarily connecting the two structures between which a potential measurement was to be made, and the maximum value of this current is also given in the report, and is called a temporary bond current. It must be remembered that these temporary bond currents do not indicate currents which are normally flowing on the pipes, but that where substantial current can be made to flow through such a temporary connection, it proves that the electrical contact is of low resistance, and that the observed potentials are capable of producing substantial current flow. In general it is a fact that where a large current can be drawn through such a temporary bond connection, it is an indication that under normal conditions there will be some current flow between the two structures through the intervening soil, because such soil has a finite although high electrical resistance. The only reliable determinations of amount or strength of current affecting the piping, are those computed from drop measurements made directly on the pipes, as discussed later on. Connections to the water pipes for the potential and temporary bond current measurements were generally made by means of hydrants.

In order to determine the amount of current flow on a pipe it is necessary to connect the terminals of a millivolt-meter across a continuous length of pipe, and to measure the drop in potential due to the current flow. From this drop and from an assumed resistance for the included length of

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pipe, the current strength in amperes can be calculated. This test requires contact at two points on a continuous length of pipe, not including joints, because joints have an unknown and a variable resistance. Since the water mains are buried in ground and are therefore not accessible except at a few places where they cross bridges or pass through manholes, such current measurements generally require the making of an excavation exposing a length of pipe. In order to repeat the current measurements on the mains where they were exposed for test without again having to make an excavation, two insulated wires were permanently connected to a length of pipe, and the ends brought up to the street surface in service boxes. These wires form permanent stations for electrical tests by means of which current flow can be measured without again exposing the pipe. These drop measurements on water pipes from which currents are calculated were made by means of Bristol smoked-chart recording millivoltmeters, the readings of which were checked by means of a Weston indicating millivoltmeter. In most cases these current records were taken for twenty-four hours in order to obtain the twenty-four hour average value, and also to show the characteristic variations so as to identify the source.

Potential Survey.

The first work of this survey, which was begun on November 6, 1912, consisted of potential measurements of the water piping referred to the trolley rails, referred to the electric light cable sheaths, and referred to the telephone cable sheaths. This work had been in progress for about ten days, when a study of the results indicated that the water pipes were in general negative to the trolley rails, but were abnormally positive to the electric light cable sheaths, that is, the electric light cable sheaths were abnormally negative in potential. An investigation showed that this highly negative condition of the electric light cable sheaths was due to the fact that the electric light cable sheaths were connected to the railway return feeders in the immediate neighborhood of the railway power station, namely, at

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Corner of Front Street and Grove Street;
Corner of Potter Street and Mechanic Street;
Corner of Potter Street and Commerce Street;

while the trolley rails were connected to the railway return feeders at some distance from the power station, namely at

Car Barns on State Street near Market Street;
Corner of Boulevard and Kilbourne Street;
Corner of Main Street and Sheldon Street.

I learned from representatives of the Hartford Electric Light Company that their sheaths were carrying a total of about 700 amperes of railway current, or approximately 10% of the total railway station load. I took the matter up with them and suggested that they either insert resistances in their bond connections so as to reduce these currents and raise the potentials, or change the bond connections to points further removed from the railway power station. It was agreed that the latter change should be made, and work was immediately started, and the old bonds were disconnected and new bonds installed at the following points:

Corner of Charter Oak Avenue and Woodbridge Street;
Corner of Main Street and Pearl Street;
Corner of Main Street and Asylum Street;
State Street near Market Street;
Morgan Street near Boulevard.

This work was completed November 20, 1912, and it was found that the current drained over the new bond connections aggregated about 300 amperes. On November 21, 1912, the Southern New England Telephone Company removed the bond connection between the telephone cable sheaths and the railway return feeders at the corner of Commerce Street and Grove Street, and substituted a new bond connection at the corner of Front Street and State Street. This change of telephone bond connection was found to affect the potential conditions of the water piping only locally in the immediate vicinity of these bond connections.

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A few potential and current measurements made after these bond connections were changed showed that the water piping was still abnormally positive to the electric light cable sheaths in the neighborhood of Charter Oak Avenue. At my request the bond connection from the electric light cable sheaths to the railway return feeders at the corner of Charter Oak Avenue and Woodbridge Street was removed and the former highly positive potential condition of the water piping was thereby greatly reduced. The total current drained from the electric light cable sheaths to the railway return conductors was thereby reduced to about 250 amperes.

It was found that the potential and current conditions of the water piping system had been entirely changed by the changes in the bond connections, and it therefore became necessary to repeat all of the potential and current measurements which had already been made.

The maximum, minimum and average values of the observed potentials of the water pipes, referred to the trolley rails, referred to the electric light cable sheaths, and referred to the telephone cable sheaths, are given respectively in Tables No. 1, No. 2 and No. 3. A measurement of current flow through a temporary bond connection was also made at every point where potential measurements were made, and the maximum values of these observed temporary bond currents are also included in the same tables. It must be remembered that this current through a temporary bond connection does not normally flow between the two structures, because these are not normally connected together by a low resistance conductor. The object of the temporary bond connection is to test the electrical contact, and where a potential is found, to determine whether this is capable of producing a substantial current flow. The values given in Tables No. 1, No. 2 and No. 3 were obtained after the bond changes were made and therefore represent present conditions.

The average results of the simultaneous potential measurements of the water pipes referred to the trolley rails, referred to the electric light cable sheaths, and referred to telephone cable sheaths, are represented in convenient graphical form

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in Plate No. 3. Since the tests in this survey have all been made with reference to the water piping system, the potential of the water piping system is taken as the zero or datum of potential, and the potentials of the rails referred to the water pipes are shown by full lines, the potentials of the telephone cable sheaths referred to the water pipes by broken lines, and the potentials of the electric light cable sheaths referred to the water pipes by dotted lines. The ordinates of these lines give the average potentials of these various structures referred to each other.

Where potential measurements were made before and after the electric light and telephone bonds were changed, the average values of both of these measurements are given in Plate No. 3, so as to show the effect of these bond changes upon the potential condition of the water piping system. Referring to this plate it will be seen that the effect of changing the bond connections was in most cases to greatly reduce the potential difference between the water pipes and the electric light cable sheaths. It will also be seen that at the present time the electric light cables are still the lowest in potential of all underground conductors, and that next in order in the potential scale are the telephone cable sheaths, the water pipes, and the rails.

The average results of the potential measurements between the water pipes and the trolley rails, between the water pipes and the electric light cable sheaths, and between the water pipes and the telephone cable sheaths, are also shown respectively on skeleton maps of Hartford in Plates No. 4, No. 5 and No. 6. In these plates the average potentials of the water pipes are laid off to the scale given as normals to the lines representing the railway tracks or the underground cables. The ends of these potential lines are then connected, and the areas between these connecting lines and the lines representing the railway tracks or the underground cables are colored red where the water pipes are positive, and blue where they are negative in potential. Where both red and blue areas are shown on the same line, the potentials were found to reverse frequently. These graphical representations afford

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a good picture of the potential relations of the water piping system referred to the trolley rails, referred to the electric light cables, and referred to the telephone cables.

Referring to Plate No. 4 showing the average results of the potential measurements of the water pipes referred to the trolley rails, it will be seen that at the connection points of negative return feeder cables to the rails on State Street and the Boulevard, the pipes average from 1 to 3 volts positive in potential to the trolley rails, and that this positive condition extends for about 1,000 feet from these connection points along State Street, Boulevard, Market Street and Morgan Street. At Main and Sheldon Streets where five No. 0000 negative return feeder cables connect to the rails, the water pipes are from 2 to 3 volts average negative in potential to the trolley rails. This is undoubtedly due to the fact that these negative return feeders are relatively small compared with the return feeder cables to State Street and to the Boulevard. Beyond this positive region on State Street, Boulevard, Market Street and Morgan Street, the pipes are generally from 2 to 5 volts average negative in potential to the rails, the values of negative potential generally increasing towards the ends of the lines. Plate No. 4 also shows that a number of the outlying lines show reversals of the polarity of the water pipes referred to the trolley rails. This may be due to defective rail bonding, or to defective bonding around special work.

Referring to Plate No. 5 showing the average results of the potential measurements of the water pipes referred to electric light cable sheaths, it will be seen that the water pipes are everywhere positive in potential to these cable sheaths, the average values varying from 1 to 4 volts. This is due to the fact that these electric light cable sheaths are bonded to the railway return circuit at a number of points, whereby they are made a part of the railway return circuit, so that these sheaths pick up stray railway current throughout their length, which current is drained from them over the bond connections. A striking fact shown by Plate No. 5 is that

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the positive pipe potentials are generally lowest in the neighborhood of the bond connection points. This low potential condition is probably due to the fact that there are accidental metallic contacts which form electrical connections of relatively low resistance between the water piping system and the electric light cable sheaths in the vicinity of these bond connection points. They are due more than likely to cable sheaths and water pipes resting against each other or to being strapped to a common iron frame in manholes or in buildings. Attempts to locate such connections were made but it proved extremely difficult to find the actual points of contact. In one case such contact was found in a manhole, and in two cases in buildings. The indications are however that a large number of such contacts exist, as the removal of any one does not appear to materially affect the total current flow, indicating that there are many parallel paths for this current flow.

In Plate No. 6 are shown the average values of the potentials of the water pipes referred to the cable sheaths of the Southern New England Telephone Company. Referring to this plate it will be seen that in the central part of the city on Main Street, Albany Avenue, Morgan Street and part of Windsor Avenue, the water pipes are generally from a fraction of a volt to about one volt average negative in potential to these cable sheaths, while at points outside of this region the water pipes are generally positive in potential to these sheaths, the average value of the positive potential varying from 1 to about 4 volts. On State Street at Asylum Street and at Front Street, where the telephone cable sheaths are bonded to the railway return circuit, the water pipes are also slightly positive in potential to these cable sheaths. The positive potential condition of the water pipes referred to the telephone cable sheaths found generally throughout Hartford is caused by the bond connections from the cable sheaths to the railway return circuit. The slightly negative condition of the water piping referred to the telephone cable sheaths in the central part of the city is probably due to the effect of the large current flowing on the bonded electric light cable sheaths.

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In Plate No. 7 is given a 48-hour record of the potential difference between the negative bus-bar and a water service pipe in the railway power station on Commerce Street. Referring to this plate it will be seen that this potential reaches a maximum of 17 volts and a minimum of 1 volt, the 48-hour average being 9 volts; the bus-bar is negative in potential to the water pipe. This denotes a fairly high resistance between the negative bus-bar and ground at the power station, which is very desirable for minimizing stray currents.

Three 24-hour records of the potential difference between the water main on State Street and the trolley rails at City Hall were obtained from November 18 to 21, 1912. These records were taken with a Bristol recording voltmeter connected to the test wires brought into the City Hall office of the Water Department. These records show very clearly the effect of the change in the electric light bond connections; on November 18th, 19th and 20th, the average potential was about 0.4 volt, the pipe being negative; at 10.15 a. m., on November 20th, when the electric light bonds were changed, this potential reversed to about 0.6 volt pipe positive. The 24-hour average value of this potential for November 21st and 22nd was approximately 0.6 volt pipe positive.

Current Survey.

Measurements of current flow were made on the water pipes at points where the pipes are accessible on bridges or in manholes, and at other points where pipes were especially exposed for test purposes. At these points insulated copper wires attached to a continuous length of pipe and brought to the street surface, thus forming permanent electrical test stations. The locations and constants of these test stations are given in Table No. 5.

The maximum, minimum and average values of the current measurements are given in detail in Table No. 4. In this table current measurements made before the electric light bonds were changed are shown in bold type, and the measurements made after the changes are shown in regular type. In nearly all cases the current measurements were

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made for a period of twenty-four hours by means of recording instruments. Referring to Table No. 4 it will be seen that the effect of changing the electric light bond connections has in general been to very greatly reduce the amount of stray current flowing on the water piping system.

The average results of the current measurements made after the cable bonds were changed, that is, the average values of the current flowing on the water pipes at the present time, are also shown on the mains map, Plate No. 1. On this map bold arrows and figures denote respectively the direction and average value in amperes of these currents.

In the railroad power station stray electric current averaging from 25 to 30 amperes was found flowing out of the building on the 5-inch water service pipe towards the 24-inch water main. An investigation showed that this current flow was caused by the fact that the electric lamps in the station were connected between a positive feeder wire and the steel structure of the building. Since the negative bus-bar is insulated from ground and the water service pipe is in contact with the steel structure of the building, the current taken by the lamps flowed out of the building on the water service pipe to the water main, and then left this main to return by way of the rails and negative return feeders to the power station. Inasmuch as this was a dangerous condition, an insulating joint was installed in this water service pipe at my request, and the current flow was stopped as verified by a test made on November 21, 1912.

A number of twenty-four-hour records of current flow on water pipes, plotted in rectangular co-ordinates, are shown in Plates No. 8, No. 9, No. 10, No. 11 and No. 12. From the similarity of these curves with the potential records obtained in the power station, shown in Plate No. 7, it will be seen that the stray electric current flowing on the water pipes follow the variations characteristic of the railway load. These records therefore identify the current flowing on the water piping system as stray electric current belonging to the trolley railways supplied by the Connecticut Company's power station in Hartford.

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In Plate No. 8 are shown two twenty-four-hour records of current flow on the 30-inch water main in John Street, south of Buckingham Street. One of these records was taken on November 19-20, before the bond connections of the Hartford Electric Light Company were changed, and the second record was taken on December 12, 1912, after these changes were made. It will be seen from this plate that the effect of changing these bond connections was to greatly reduce the amount of stray electric current flowing on this 30-inch main.

In Plate No. 12 three records of current flowing on the 30-inch water main on Park Street are shown, one record being taken near Barker Avenue on November 19-20, 1912, the second record at Orange Street, November 20-21, 1912, and the third record at Washington Street, January 9-10, 1913. It will be seen that the current on this main increases progressively towards the center of the city, that is towards the railway power station.

It will be noted from the above that the amounts of stray electric current found on the water piping are abnormally large. A study of the potential survey indicates that this large current flow is probably due in part to contacts between the water piping system and the electric light cable sheaths.

While the potential difference between the water pipes and the electric light cable sheaths was low at a number of points as mentioned before, it was not low enough as to indicate perfect electrical contact between the pipes and sheaths. This probably means that the pipes and cable sheaths are resting against each other in manholes, cellars of buildings, etc., forming imperfect contacts, through which large currents may be flowing. Such a condition may cause heating where a large current flows through a high resistance contact, or where there is vibration it may cause arcing; where such conditions exist in buildings they may constitute a serious fire hazard. Such metallic contacts are also objectionable because they cause an abnormally large current to flow on the water piping. Attempts were made to locate such contacts but this was found a difficult undertaking. Three accidental contacts were however found at the following points: In the basement

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of the Hartford Bank, corner of Main and Asylum Streets, where 9 amperes were found to flow from the water service pipe to the electric light cable sheaths; in the Pearl Street substation of the Hartford Electric Light Company, where a total current of about 18 amperes was found flowing from the two water services to electric light cable sheaths; in a manhole af the Hartford Electric Light Company in front of No. 61 Asylum Street, where the water service pipe was in metallic contact with the iron framework which supports the lead cable sheaths, but here the magnitude of the current could not be measured.

Inasmuch as these connections are a source of danger due to the possibility of dangerous heating at the contact and also due to the large current flow induced on the water piping which may produce electrolysis where high resistance joints cause shunting of the current, I consider it very desirable that a careful examination be made to locate and remove such contacts wherever possible.

Tests of Rail Bonds.

In view of the fact that the potential measurements indicated that the track bonding on some of the trolley lines was defective, I suggested that the Connecticut Company be requested to make a test in my presence of the condition of the track bonding of the trolley railways in Hartford, and on the interurban lines out of Hartford as far as these are supplied from the Hartford power station. This rail bond test was made on December 18-21, 1912, by means of a Herrick Rail Bond Test Car, and was witnessed by myself or by my assistant. The number of defective bonds as indicated by the test car were recorded, and they are summarized in Table No. 6. In all 836 defective bonds were found, most of which were localized along a number of lines as given in the table, the remainder of the track work being in good condition.

It will also be seen from this table that there are quite a number of broken bonds on the Unionville line beyond West Hartford Center. Most of these defective bonds were however further out than the water mains extend, and a repair gang

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was at work installing new bonds on this stretch of track. In addition to this, the rails in this section are paralleled by a No. 0000 aerial negative feeder running from the Unionville substation, and tapping into the rails about every thousand feet. On Prospect Avenue south of Farmington Avenue all the rail joints appeared to have a very high resistance although only six bonds were shown to be practically open.

It should be noted that the Herrick test car does not test the condition of the special work, such as switches, cross-overs, turn-outs, etc. Such special work can only be tested by means of indicating instruments. Since such tests are extremely laborious and take a considerable amount of time, the special work was tested at only a few places, and in these places was found to be in good condition. The defective bonds however cause stray current to leave the tracks and flow through ground, and they should be repaired as soon as practicable.

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TABLES

ELECTROLYSIS REPORT

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TABLE No. 1.

POTENTIALS OF WATER PIPES REFERRED TO TROLLEY RAILS.

Date and Time	Location	Duration of Test Min.	Potential of Water Pipes Referred to Trolley Rails Volts Max.	Min.	Ave.	Momentary Current Through Temporary Bond Amperes
11/25/12						
1.45 p.m.	Albany Ave.:					
	At Morgan St. . . .	15	+0.4	0	+0.2	
		20	—1.0	0	—0.4	0
11/26/12						
9.28 a.m.	At High St.	35	—5.0	—0.7	—3.0	—4
11/27/12						
3.45 p.m.	At Brook St.	20	—4.6	—0.4	—2.0	—8
12/6/12						
3.00 p.m.	At Vine St.	10	+1.3	0	+0.4	
		20	—2.3	0	—0.6	—1
3.59 p.m.	At Blue Hills Ave.,	5	+1.4	0	+0.5	
		15	—3.2	0	—1.3	—1
12/18/12						
11.06a.m	At Bloomfield Ave	40	+4.1	0	+1.3	
		13	—3.5	0	—0.7	
12/11/12	Ashley St.:					
2.12 p.m.	At Garden St. . . .	20	—5.0	0	—2.0	—5
		15	+3.0	0	+0.5	
12/16/12						
2.04 p.m.	At Woodland St. .	20	+4.0	0	+2.0	+4
		25	—7.0	0	—3.0	
11/26/12	Asylum St.:					
10.47a.m	At Ann St.	53	—2.0	—0.5	—1.3	—3
2.08 p.m.	At Hopkins St. . . .	34	—2.4	—0.2	—0.8	—0.5
11/27/12						
2.48 p.m.	At Woodland St. .	20	+2.4	0	+1.0	+1
		2	—1.8	0	—0.4	
12/18/12						
11.34a.m	At Steele St.	27	—14.0	0	—4.0	
12/6/12	At Sigourney St. . .	3	+1.4	0	+0.5	0
2.08 p.m.		20	—2.0	0	—0.7	

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TABLE No. 1—continued.

POTENTIALS OF WATER PIPES REFERRED TO TROLLEY RAILS.

Date and Time	Location	Duration of Test Min.	Potential of Water Pipes Referred to Trolley Rails Volts Max.	Min.	Ave.	Momentary Current Through Temporary Bond Amperes
12/13/12 4.14 p.m.	Barbour St. and Westland St.....	20	—7.0	0	—2.0	—5
12/9/12 4.10 p.m.	Blue Hills Ave.:	0.5	+1.0			
	Near Boulevard..	12	+3.0	0	+1.5	
		13	—7.0	0	—3.0	—20
12/18/12 9.27 a.m	At Burnham St...	60	—20.0	0	—7.0	
12/16/12 11.02 am.	Buckingham St. and Washington St...	28	—3.6	—0.9	—2.4	0
11/26/12 10.03 a.m	Capitol Ave.: At Trinity St.....	25	—3.3	—1.0	—2.2	—1
11/27/12 11.15 a.m	At Broad St.....	30	—5.5	—2.0	—4.5	—3
12.12 p.m	At Laurel Ave....	23	—5.0	—1.0	—3.0	—12
12/16/12 9.50 a.m	Charter Oak Ave.:.. At Prospect St. ..	18	—2.5	—0.2	—1.0	—15
12/14/12 9.53 a.m	At Huyshope Ave.	21	—5.5	—0.5	—2.5	Ind.
12/16/12 4.20 p.m.	Fairfield Ave. and Maple Ave.....	45	—22.0	—0.5	—5.0	—2
12/11/12 9.22 a.m	Farmington Ave.: At Sigourney St. .	25	—5.0	—0.5	—3.0	—4
12/10/12 2.25 p.m.	At Lorraine St....	13	—5.2	—1.0	—3.0	—5
3.03 p.m.	At Prospect Ave..	25	—4.7	—0.4	—3.0	—8

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TABLE No. 1—continued.

POTENTIALS OF WATER PIPES REFERRED TO TROLLEY RAILS.

Date and Time	Location	Duration of Test Min.	Potential of Water Pipes Referred to Trolley Rails Volts Max.	Min.	Ave.	Momentary Current Through Temporary Bond Amperes
12/17/12						
11.18 a.m	Franklin Ave.:					
	At Preston St. . . .	2	+1.6	0	+0.5	
		15	—4.4	0	—1.7	—6
9.28 a.m	At Eaton St.	5	+1.5	0	+0.5	
		17	—5.5	0	—2.0	—35
12/4/12						
2.06 p.m.	Jewell St. and Pearl St.	30	—3.2	—1.0	—2.0	—1
11/22/12						
3.23 p.m.	Main St.:					
	At Park St.	55	—4.0	—1.0	—2.3	—2
11/25/12						
10.50 a.m	At Wells St.	55	—1.6	—0.2	—0.7	—1
9.34 a.m	At Asylum St. . . .	35	+0.8	+0.2	+0.5	+2
12/5/12						
9.57 a.m	Morgan St. and Boulevard	28	+2.1	+0.6	+1.5	+10
12/7/1/						
10.01 a.m	New Britain Ave.:					
	At Washington St.	20	—3.5	—0.6	—2.3	—4
12/5/12						
4.20 p.m.	At Broad St.	18	—3.4	—0.4	—2.0	—2
12/16/12						
3.53 p.m.	At Zion St.	30	—5.0	—1.0	—2.0	—20
12/17/12						
2.39 p.m.	At Newington Turnpike	27	—14.0	—3.0	—8.0	—30
3.47 p.m.	New Park Ave. south of Stark St.	10	+1.5	0	+0.5	
		19	—4.0	0	—1.0	—10

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TABLE No. 1—continued.

POTENTIALS OF WATER PIPES REFERRED TO TROLLEY RAILS.

Date and Time	Location	Duration of Test Min.	Potential of Water Pipes Referred to Trolley Rails Volts Max.	Min.	Ave.	Momentary Current Through Temporary Bond Amperes
12/5/12						
3.25 p.m.	Park St.:					
	At Washington St.....	20	—3.8	—1.1	—2.3	—1
12/7/12						
9.04 a.m	At Broad St.....	30	—3.0	—0.8	—2.0	—10
12/16/12						
8.09 p.m.	At Zion St.....	18	—4.8	—1.2	—3.0	—8
12/17/12						
4.15 p.m.	Park St.:					
	At New Park Ave.,	19	—5.0	—1.0	—3.0	—75
12/11/12						
10.56 a.m	At Prospect Ave.,	45	—6.0	0	—2.0	—10
11/26/12						
3.23 p.m.	State St.:					
	At Market St. . . .	60	+2.2	+1.0	+1.6	+8
12/5/12						
11.08 a.m	At Boulevard. . . .	30	+4.8	+2.4	+3.4	+10
12/9/12						
2.45 p.m.	Vine St.:					
	At Greenfield St.,	15	+2.0	0	+0.5	
		25	—4.0	0	—1.0	—15
3.04 p.m.	At Holcomb St. . .	10	+2.5	0	+0.7	
		20	—6.5	0	—4.5	—25
12/17/12						
10.10 a.m	Wethersfield Ave.:					
	At Victoria Road .	5	+1.0	0	+0.5	
		25	—9.5	0	—4.0	—50
11.06 a.m	At Preston St. . . .	12	+1.4	0	+0.4	
		25	—4.8	0	—1.5	—20
12/13/12						
1.56 p.m.	Windsor Ave.:					
	At Capen St.....	24	—6.5	—1.0	—3.0	—30
3.07 p.m.	At City Line.....	27	—7.0	—1.0	—3.5	—10
2.48 p.m.	At Windsor St....	60	—5.0	0	—2.0	—20

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TABLE No. 2.

POTENTIALS OF WATER PIPES REFERRED TO CABLE SHEATHS OF HARTFORD ELECTRIC LIGHT COMPANY.

Date and Time	Location	Duration of Test Min.	Potential of Water Pipes Referred to H.E.L.Co.Cable Sheaths Volts			Momentary Current Through Temporary Bond Amperes
			Max.	Min.	Ave.	
11/25/12 1.46 p.m.	Albany Ave.: At Morgan St. . . .	35	+1.0	+0.4	+0.7	+1
11/26/12 9.26 a.m	At High St.	40	+0.5	+0.2	+0.4	+0.5
11/27/12 3.45 p.m.	At Brook St.	20	+4.5	+2.1-	+3.5	+5
11/26/12 10.49 a.m	Asylum St.: At Ann St.	54	+1.1	+0.5	+0.8	+2
2.08 p.m.	At Hopkins St. . . .	36	+4.5	+2.4	+3.2	+4
12/6/12 2.08 p.m.	At Sigourney St. .	20	+1.7	+0.8	+1.2	Ind.
11/27/12 2.48 p.m.	At Woodland St. .	23	+4.5	+2.9	+3.8	+4
12/14/12 11.10 a.m	Broad St. at State Armory	2	+2.0	+1.0	+1.5	
12/16/12 11.03 a.m	Buckingham St. and Washington St. . . .	27	+2.0	+1.0	+1.5	0
12/4/12 3.11 p.m.	Capitol Ave.: At West St.	25	+1.7	+1.0	+1.3	+0.25
11/26/12 10.03 a.m	At Trinity St.	25	+2.4	+9.3	+1.9	+1
11/27/12 11.15 a.m	At Broad St.	30	+1.0	+0.4	+0.8	+0.5
12.12 p m	At Laurel Ave. . . .	23	+1.7	0	+1.0	+1
12/16/12 9.50 a.m	Charter Oak Ave.: At Prospect St. . .	35	+1.4	+0.5	+1.0	Ind.
12/14/12 9.53 a.m	At Huyshope Ave.	21	+2.4	+0.7	+1.5	+1

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TABLE No. 2—continued.

POTENTIALS OF WATER PIPES REFERRED TO CABLE SHEATHS OF HARTFORD ELECTRIC LIGHT COMPANY.

Date and Time	Location	Duration of Test Min.	Potential of Water Pipes Referred to H.E.L.Co.Cable Sheaths Volts			Momentary Current Through Temporary Bond Amperes
			Max.	Min.	Ave.	
12/10/12 1.59 p.m.	Farmington Ave.: At Lorraine St. . .	40	+0.03	+0.004	+0.015	0
3.05 p.m.	At Prospect Ave. .	20	+0.15	0	+0.05	
		5	+0.08	0	+0.02	0
11/22/12 10.41 a.m	Front St. and Arch St.	60	+2.4	+1.0	+1.7	+5
11/21/12 2.45 p.m.	Grove St.: At Front St.	55	+1.0	+0.4	+0.7	+0.5
11/22/12 1.58 p.m.	At Prospect St. . .	55	+0.8	+0.4	+0.6	+3
12/4/12 2.05 p.m.	Jewell St. and Pearl St.	30	+1.7	+0.8	+1.2	+0.5
11/22/12 8.23 p.m.	Main St.: At Park St.	57	+3.2	+1.4	+2.5	+5
11/25/12 10.50 am.	At Wells St.	50	+2.0	+0.5	+1.3	+1
9.08 a.m 12/5/12	At Asylum St. . . .	60	+0.4	+0.2	+0.3	+1
9.30 a.m 12/10/12	Morgan St. and Boulevard.	60	+1.9	+0.4	+1.1	+1
10.38 a.m	Potter St.: At Commerce St. .	6	+0.7	+0.4	+0.5	
11/21/12 4.19 p.m. 11/26/12	At Mechanic St. .	28	+2.0	+1.0	+1.5	+4
3.23 p.m.	State St.: At Market St. . . .	60	+0.7	+0.3	+0.5	+2
12/5/12 11.08 a.m	At Boulevard. . . .	30	+0.7	+0.4	+0.5	0

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TABLE No. 3.

POTENTIALS OF WATER PIPES REFERRED TO CABLE SHEATHS OF SOUTHERN NEW ENGLAND TELEPHONE COMPANY.

Date and Time	Location	Duration of Test	Potential of Water Pipes Referred to S. N. E. T. Co. Sheaths Volts			Momentary Current Through Temporary Bond Amperes
		Min.	Max.	Min.	Ave.	
11/25/12 1.45 p.m.	Albany Ave.: At Morgan St. ...	35	—0.4	—0.08	—0.8	0
11/26/12 9.25a.m	At High St.....	30	—1.6	—0.6	—1.0	—2
11/27/12 3.45 p.m.	At Brook St.....	20	+1.0	+0.2	+0.6	+1
12/6/12 2.59 p.m.	At Vine St.....	30	+2.1	+0.4	+1.4	+0.5
3.59 p.m.	At Blue Hills Ave.	20	+2.4	—0.5	+1.1	+1
12/11/12 2.12 p.m.	Ashley St.: At Garden St. ...	25	+2.4	+1.4	+2.0	+2
12/16/12 2.04 p.m.	At Woodland St..	20	+1.2	0	+0.3	
		5	—0.7	0	—0.2	0
11/26/12 10.46a.m	Asylum St.: At Ann St.	55	—0.3	—0.1	—0.2	Ind.
2.08 p.m.	At Hopkins St....	36	+2.2	+1.1	+1.6	+1
12/6/12 2.07 p.m.	At Sigourney St..	23	+2.5	+1.5	+1.9	+1
11/20/12 2.48 p.m.	At Woodland St..	22	+0.2	0	+0.1	
		1	—0.1	0	—0.04	0
12/16/12 11.04a.m	Buckingham St. and Washington St....	27	+1.6	+0.8	+1.2	0
12/4/12 3.11 p.m.	Capitol Ave.: At West St.	25	+0.9	+0.2	+0.5	0

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TABLE No. 3—continued.

POTENTIALS OF WATER PIPES REFERRED TO CABLE SHEATHS OF SOUTHERN NEW ENGLAND TELEPHONE COMPANY.

Date and Time	Location	Duration of Test Min.	Potential of Water Pipes Referred to S. N. E. T. Co. Sheaths Volts			Momentary Current Through Temporary Bond Amperes
			Max.	Min.	Ave.	
11/26/12 10.30 a.m	Capitol Ave.: At Trinity St.....	25	+1.0	+0.8	+0.6	0
11/27/12 11.15 a.m	At Broad St.....	30	—0.8	—0.2	—0.5	0
12.12 p.m	At Laurel Ave....	23	+1.3	+0.8	+1.0	+1
12/16/12 9.50 a.m	Charter Oak Ave. and Prospect St...	33	+0.8	+0.1	+0.4	+1
12/16/12 4.20 p.m.	Fairfield Ave. and Maple Ave.....	45	+3.8	+1.0	+2.0	+2
12/11/12 9.21 a.m	Farmington Ave.: At Sigourney St. .	25	+2.0	+1.0	+1.5	+1
12/10/12 1.55 pm..	At Lorraine St. . .	45	+1.0	+0.2	+0.7	+1
3.04 p.m.	At Prospect Ave..	25	+1.0	+0.8	+0.6	0
11/22/12 10.41 a.m	Front St. and Arch St.....	60	—0.5	0	—0.25	0
11/21/12 11.03 a.m	Grove St.: *At Commerce St..	10	+16.0	+8.0	+12.0	
11.13 a.m	At Commerce St..	40	+0.8	+0.8	+0.6	
2.42 p.m.	At Front St.	42	+0.2	0	+0.05	
		3	—0.1	0	—0.03	0
11/12/12 1.53 p.m.	At Prospect St. . .	55	+0.25	+0.01	+0.15	0
12/4/12 2.06 p.m.	Jewell St. and Pearl St.....	30	—0.7	—0.2	—0.5	—0.5

* Test made just before S.N.E.T. Co. bond at this point was opened.

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TABLE No. 3—continued.

POTENTIALS OF WATER PIPES REFERRED TO CABLE SHEATHS OF SOUTHERN NEW ENGLAND TELEPHONE COMPANY.

Date and Time	Location	Duration of Test Min.	Potential of Water Pipes Referred to S. N. E. T. Co. Sheaths Volts Max.	Min.	Ave.	Momentary Current Through Temporary Bond Amperes
11/22/12 3.23 p.m.	Main St.: At Park St.....	55	+1.3	0	+0.6	0
11/25/12 10.50 a.m	At Wells St.	50	—0.6	—0.1	—0.3	0
9.33 a.m	At Asylum St. ...	30	+0.4	+0.2	+0.2	+0.25
12/5/12 9.57 a.m	Morgan St. and Boulevard.....	27	—2.2	—0.6	—1.4	Ind.
12/7/12 10.01 a.m	New Britain Ave.: At Washington St.....	20	+3.4	+1.5	+2.4	+2
12/5/12 4.21 p.n..	At Broad St.....	18	+4.2	+1.8	+3.0	+4
12/5/12 3.26 p.m.	Park St.: At Washington St.....	20	+1.7	+1.0	+1.3	0
12/7/12 9.04 a.m	At Broad St.....	30	+1.6	+0.7	+1.2	+3.0
12/16/12 3.09 p.m.	At Zion St.....	17	+2.4	+1.1	+1.6	+1
12/11/12 10.55 a.m	At Prospect Ave..	35	+0.5	0	+0.2	0
11/26/12 3.23 p.m.	State St.: At Market St. ...	20	—0.1	0	—0.03	
		40	+0.1	0	+0.05	0
11.08 a.m	At Boulevard	40	+3.4	+1.8	+2.5	+4
12/17/12 11.07 a.m	Wethersfield Ave. and Preston St....	39	+2.6	+1.2	+1.8	+0.5
12/13/12 1.56 p.m.	Windsor Ave. and Capen St.	24	+1.2	+0.8	+1.0	+0.5

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TABLE No. 4.

CURRENT MEASUREMENTS ON WATER MAINS.

Light Figures Indicate Present Values.
Bold Figures Indicate Values Before Electric Light and Telephone Bonds Were Changed.

Date and Time	Location	Size and Kind of Pipe	Duration of Test	Current on Pipe Amperes			Direction
			Min.	Max.	Min.	Ave.	
11/12/12							
10.00 a. m.	Main St. at Asylum St.	16" C. I.	2	0.6	0	0.6	South
	Farmington Ave. and Vanderbilt Road						
4.05 p. m.	North Main	20" C. I.	5	17.3	6.7	9.3	East
4.15 p. m.	South Main	20" C. I.	5	2.6	0.7	0.9	East
12/10/12	Farmington Ave. and Vanderbilt Road						
4.15 p. m.	North Main	20" C. I.	1440	25.2	0	6.6	East
4.10 p. m.	South Main	20" C. I.	1440	1.3	0	0	East
11/15/12							
4.50 p. m.	Washington St. north of New Britain Ave.	6" C. I.	5	4.6	0.9	4.0	North
11/16/12							
11.50 a. m.	John St. south of Buckingham St.	30" C. I.	5	154	76.8	114	North
11/19/18							
12.00 noon	John St. south of Buckingham St.	30" C. I.	1440	227	5.1	75.0	North
11/21/12							
12.00 noon	John St. south of Buckingham St.	30" C. I.	1300	173	10.2	61.4	North
12/12/12							
4.45 p. m.	John St. south of Buckingham St.	30" C. I.	1440	118	7.7	64.0	North
11/16/12							
12.10 p.m.	Asylum St. at Ann St.	20" C. I.	5	20.0	13 3	16 7	East
3.25 p. m.	Asylum St. at Ann St.	20" C. I.	1380	31.0	4.4	17.7	East

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TABLE No. 4—continued.

CURRENT MEASUREMENTS ON WATER MAINS.

Light Figures Indicate Present Values.
Bold Figures Indicate Values Before Electric Light and Telephone Bonds Were Changed.

Date and Time	Location	Size and Kind of Pipe	Duration of Test	Current on Pipe Amperes			Direction
			Min.	Max.	Min.	Ave.	
11/21/12 8.40 a. m.	Asylum St. at Ann St.	20" C. I.	5	11.1	6.6	8.8	East
11/20/12 8.30 a. m.	Main St. opposite Pratt St.	20" C. I.	3	11.1	4.4	9.8	North
11/21/12 9.00 a. m.	Main St. opposite Pratt St.	20" C. I.	3	13.2	4.4	10.2	North
11/19/12 10.00 a. m.	Park St. west of Prospect St.	30" C. I.	1435	40.8	0	10.2	East
			5	10.2	0	—	West
11/20/12 9.20 a. m.	Arch St. east of Main St.	24" C. I.	5	44.7	25.1	35.8	East
10.00 a. m.	Arch St. east of Main St.	24" C. I.	19	50.2	28.6	39.4	East
11.45 a. m.	Arch St. east of Main St.	24" C. I.	1440	35.8	0	16.0	East
11/20/12 4.45 p.m.	Park St. east of Orange St.	30" C. I.	1400	110.	0	32.0	East
			40	5.2	0	2.6	West
11/27/12 11.30 a. m.	Broad St. north of Capitol Ave.	16" C. I.	5	59.3	42.3	50.	North
12/13/12 10.00 a. m.	Broad St. north of Capitol Ave.	16" C. I.	1440	72.3	0	29.0	North
11/16/12 10.30 a. m.	In R. R. Power House	5" W. I	750	36.7	13.3	25.5	Out
11/17/12 11.00 a. m.	In R. R. Power House	5" W.I.	1335	46.9	16.3	33.0	Out

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TABLE No. 4—continued.

CURRENT MEASUREMENTS ON WATER MAINS.

Light Figures Indicate Present Values.
Bold Figures Indicate Values Before Electric Light and Telephone Bonds Were Changed.

Date and Time	Location	Size and Kind of Pipe	Duration of Test	Current on Pipe Amperes			Direction
			Min.	Max.	Min.	Ave.	
11/21/12* 10.45 a. m.	In R.R. Power House	5" W.I.	2	0	0	0	—
12/7/12 4.00 p. m.	Vine St. north of Albany Ave.....	12" C. I.	1370	6.0	0	2.4	South
12/9/12 11.33 a. m.	Windsor St. near Canton St.....	16" C. I.	1440	0.5	0	0	South
12/11/12 2.10 p. m.	Albany Ave. east of Blue Hills Ave. .	20" C. I.	1440	18.9	0	7.9	East
12/14/12 9.00 a.m.	Spring St. south of Church St.....	16" C. I.	5	0.4	0.2	0.3	North
12/16/12 9.10 a. m.	Spring St. north of Church St.....	16" C. I.	5	0.4	0.2	0.3	South
8.45 a.m.	Church St. west of High St.	8" C. I.	5	0	0	0	—
12/17/12 3.25 p. m.	Newfield Ave. north of New Britain Ave.....	6" C. I.	5	4.2	3.0	3.8	North
12/19/12 9.30 a. m.	Broad St. south of School St.....	16" C. I.	1440	4.0	0	0.7	North
12/6/12 11.30 a. m.	Commerce St.: South of Grove St.,	24" C. I.	1380	37.6	12.5	16.0	North
11/26/12 4.30 p. m.	North of Potter St.,	24" C. I.	1440	39.4	0	18.9	North
1/9/13 9.00 a. m.	Boulevard south of Morgan St.....	24" C. I.	10	7.2	1.8	5.4	South

* Test after installation of insulating joint.

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TABLE No. 4—continued.

CURRENT MEASUREMENTS ON WATER MAINS.

Light Figures Indicate Present Values.
Bold Figures Indicate Values Before Electric Light and Telephone Bonds Were Changed.

Date and Time	Location	Size and Kind of Pipe	Duration of Test	Current on Pipe Amperes			Direction
			Min.	Max.	Min.	Ave.	
1/10/13 4.00 p.m.	Boulevard south of Morgan St.....	24" C. I.	22	5.4	0	3.2	South
1/9/13 9.15 a. m.	Albany Ave. at Tunnel Park ...	16" C. I.	10	13.0	7.4	10.2	East
1/10/13 8.42 p. m.	Albany Ave. at Tunnel Park...	16" C. I.	16	23.3	9.0	14.3	East
1/9/13 9.30 a. m.	Garden St. north of Collins St.	16" C. I.	9	14.0	0	7.4	North
			1	1.9	0	0.9	South
4.50 p. m.	Garden St. north of Collins St.....	16" C. I.	840	17.7	0	3.9	North
			540	9.3	0	1.6	South
11.15 a. m.	Park St. east of Washington St..	6" C. I.	10	0	0	0	—
11.20 a. m.	Park St. east of Washington St..	30" C. I.	10	77.0	46.	64.0	East
4.40 p.m.	Park St. east of Washington St..	30" C. I.	1360	128.0	5.2	53.5	East
1/9/13 2.00 p. m.	Asylum St. and Main St.....	16" C. I.	2	1.3	0.7	0.9	South
2.10 p. m.	Church St. opposite No. 20½	6" C. I.	2	0.3	0.2	0.2	East

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TABLE No. 5.

LOCATIONS AND CONSTANTS OF PERMANENT ELECTRICAL TEST STATIONS.

Location	Size and Kind of Pipe	Weight Per Foot Pounds	Distance Between Contacts Feet	Amperes Per Millivolt K
Albany Avenue, on Tunnel Park	16" C. I.	134	10	9.3
Albany Avenue, west of Harrison St.	20" C. I.	191	10	13.3
Arch St., East of Main St.	24" C. I.	258	10	17.9
Asylum St. opposite Ann St. in H.E.L. manhole	16" C. I.	134	3	31.0
Broad St., north of Capitol Ave. under bridge	16" C. I.	134	10	9.3
Broad St., south of School St.	16" C. I.	134	10	9.3
Capitol Ave. east of Sigourney St. under bridge	10" C. I.	65.6	5	9.1
Church St., opposite No. 20½ in S.N.E.T. manhole	6" C. I.	33	3	7.0
Commerce St., south of Grove St.	24" C. I.	258	10	17.9
Commerce St., north of Potter St.	24" C. I.	258	10	17.9
Connecticut Boulevard, south of Morgan St.	24" C. I.	258	10	17.9
Farmington Ave., west of Whiting St., North Main	20" C. I.	191	10	13.3
Farmington Ave., west of Whiting St., South Main	20" C. I.	191	10	13.3
Garden St., north of Collins St.	16" C. I.	134	10	9.3
John St., south of Buckingham St	30" C. I.	368	10	25.6
Main St., opposite Pratt St. in H.E. L. manhole	20" C. I.	191	3	44.3
Main St. at Asylum St. in S.N.E.T. manhole	16" C. I.	134	4	23.3
Newfields Ave. north of New Britain Ave. over bridge	6" C. I.	33	10	2.3
Park St., east of Washington St.	30" C. I.	368	10	25.6
Park St., east of Washington St.	6" C. I.	33	10	2.3
Park St., east of Orange St.	30" C. I.	368	10	25.6
Park St., east of Barker Ave.	30" C. I.	368	10	25.6
Potter St. opposite Mechanic St. in sewer manhole	24" C. I.	258	3	59.7
Vine St., north of Albany Ave.	12" C. I.	85.6	10	6.0
Washington St., north of School St., in S.N.E.T. manhole	6" C. I.	33	5	4.6
Windsor St., south of Canton St.	16" C. I.	134	10	9.3

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TABLE No. 6.

SUMMARY OF DEFECTIVE RAIL BONDS FROM TESTS MADE WITH HERRICK TEST CAR OF CONNECTICUT COMPANY, HARTFORD, CONN., December 18-21, 1912.

Location	Number of Defective Bonds				
	Outbound Track		Inbound Track		Total
	Left Rail	Right Rail	Left Rail	Right Rail	
Albany Ave. Line					
North Main St.:					
City Hall to Albany Ave.	0	0	0	0	0
Albany Ave.:					
North Main St. to Vine St.	1	1	1	0	3
Vine St. to Blue Hills Ave.	0	1	0	0	1
Blue Hills Ave. to Bloomfield St.	0	0	Single	Track	0
Total					4
Bloomfield Line					
Blue Hills Ave.:					
Albany Ave. to City Line	1	0	Single	Track	1
City Line to Bloomfield	2	5	Single	Track	7
Total					8
Vine Street Line					
Vine St.:					
Albany Ave. to Holcomb St.	1	0	Single	Track	1
Rainbow Line					
Windsor Ave.:					
Albany Ave. to Capen St.	2	2	0	5	9
Capen St. to City Line	1	0	0	0	1
City Line to Windsor	4	2	Single	Track	6
Windsor to Turn-out No. 38	0	0	Single	Track	0
Total					16
Barbour Street Line					
Windsor Ave. to end of line	26	14	Single	Track	40
Asylum Avenue Line					
Asylum St.:					
City Hall to Ford St.	0	0	Single	Track	0
Ford St. to Garden St.	0	0	0	1	1

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TABLE No. 6—continued.

SUMMARY OF DEFECTIVE RAIL BONDS FROM TESTS MADE WITH HERRICK TEST CAR OF CONNECTICUT COMPANY, HARTFORD, CONN., December 18-21, 1912.

Location	Number of Defective Bonds				
	Outbound Track		Inbound Track		Total
	Left Rail	Right Rail	Left Rail	Right Rail	
Asylum Ave.:					
Garden St. to Woodland St.	6	0	Single	Track	6
Total					7
Ashley Street Line					
Garden St.:					
Asylum St. to Ashley St.	3	3	Single	Track	6
Ashley St.:					
Garden St. to Woodland St.	0	0	Single	Track	0
Total					6
Wethersfield Avenue Line					
Wethersfield Ave.:					
Park St. to City Line	0	1	0	2	3
City Line to end of line	2	2	Single	Track	4
Total					7
Park Street Line					
Park St.:					
South Main St. to Zion St.	0	3	Single	Track	3
Zion St. to Laurel Ave.	6	7	Single	Track	13
Laurel Ave. to City Line	2	0	0	0	2
City Line to end of line	22	16	Single	Track	38
Total					56
Middletown Line					
Maple Ave.:					
Park St. to Franklin Ave.	0	0	0	0	0
Franklin Ave.:					
Maple Ave. to Eaton St.	0	0	0	0	0
Eaton St. to City Line	6	15	14	6	42

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TABLE No. 6—continued.

SUMMARY OF DEFECTIVE RAIL BONDS FROM TESTS MADE WITH HERRICK TEST CAR OF CONNECTICUT COMPANY, HARTFORD, CONN., December 18-21, 1912.

Location	Number of Defective Bonds				
	Outbound Track		Inbound Track		Total
	Left Rail	Right Rail	Left Rail	Right Rail	
Private Right of Way:					
City Line to Rocky Hill	2	13	Single	Track	15
Total					57
Unionville Line					
Farmington Ave.:					
Asylum St. to Whiting St.	0	0	0	0	0
Whiting St. to West Hartford Center,	2	1	Single	Track	3
West Hartford Center to Elm Tree Inn	34	15	Single	Track	49
Total					52
Elizabeth Park Line					
Prospect Ave.:					
Farmington Ave. to Asylum Ave.	10	14	Single	Track	24
Asylum Ave.:					
Prospect Ave. to Steele Road	4	3	Single	Track	7
Steele Road:					
Asylum Ave. to Albany Ave.	0	0	Single	Track	0
Total					31
Broad Street Line					
Broad St.:					
New Britain Ave. to Capitol Ave.	0	0	0	0	0
Zion Street Line					
Zion St.:					
New Britain Ave. to Park St.	Single	Track	25	20	45

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TABLE No. 6—continued.

SUMMARY OF DEFECTIVE RAIL BONDS FROM TESTS MADE WITH HERRICK TEST CAR OF CONNECTICUT COMPANY, HARTFORD, CONN., December 18-21, 1912.

Location	Number of Defective Bonds				
	Outbound Track		Inbound Track		Total
	Left Rail	Right Rail	Left Rail	Right Rail	
New Britain Line					
South Main St.:					
City Hall to Maple Ave.	0	0	0	0	0
Maple Ave.	0	0	0	0	0
Retreat Ave.	2	2	5	3	12
Washington St.	0	0	0	0	0
New Britain Ave.	0	0	1	0	1
Private Right-of-Way:					
Atwoods Corners to City Line.	13	19	14	11	57
City Line to Newington.	37	32	5	5	79
Total.					149
Elmwood Avenue Line					
Elmwood Ave.:					
Atwoods Corners to South St. Bridge,	3	10	Single	Track	13
Fairfield Avenue Line					
Fairfield Ave.:					
New Britain Ave. to end of line.	125	137	Single	Track	262
Miscellaneous					
Ford St.:					
Asylum St. to Pearl St.	0	0	0	0	0
Pearl St.:					
Ford St. to Main St.	0	0	0	0	0
Central Row:					
Main St. to State St.	0	0	0	0	0
Laurel St.:					
Park St. to Capitol Ave.	6	5	5	5	21
Capitol Ave.:					
Laurel St. to Trinity St.	0	1	2	0	3

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TABLE No. 6—continued.

SUMMARY OF DEFECTIVE RAIL BONDS FROM TESTS MADE WITH HERRICK TEST CAR OF CONNECTICUT COMPANY, HARTFORD, CONN., December 18-21, 1912.

Location	Number of Defective Bonds				
	Outbound Track		Inbound Track		Total
	Left Rail	Right Rail	Left Rail	Right Rail	
Trinity St.: Capitol Ave. to Pearl St.	2	1	0	1	4
Lafayette St.: Capitol Ave. to Park St.	Single	Track	19	6	25
Charter Oak Ave.: Main St. to Huyshope Ave.	0	7	Single	Track	7
Huyshope Ave.: Charter Oak Ave. to end of line	3	10	Single	Track	13
Market St.: State St. to Morgan St.	Single	Track	0	0	0
Prospect Ave., South Prospect Ave., Farmington Ave. to Park St. Most joints at limit of resistance	2	4	Single	Track	6
Vernon St.: Broad St. to Retreat Ave.	5	0	Single	Track	5
Sisson Ave.: Park St. to Farmington Ave	0	0	0	0	0
New Park Ave.: Park St. to Charter Oak Park	0	0	0	0	0
State St.: Market St. to Boulevard	0	0	0	0	0
Boulevard: State St. to Morgan St.	0	0	0	0	0
Morgan St.: Main St. to Connecticut River Bridge	0	0	Single	Track	0

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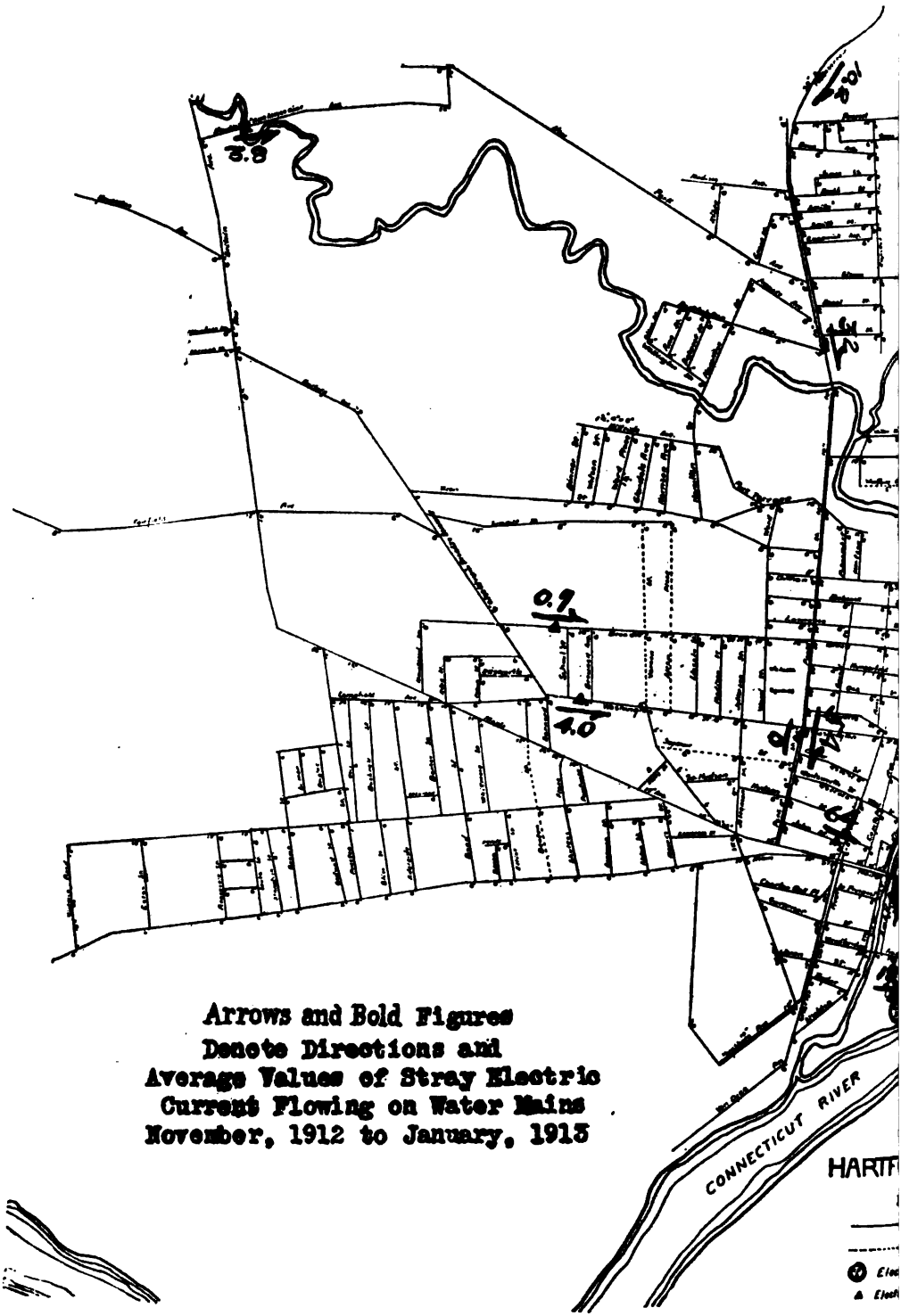

Arrows and Bold Figures
Denote Directions and
Average Values of Stray Electric
Current Flowing on Water Mains
November, 1912 to January, 1913

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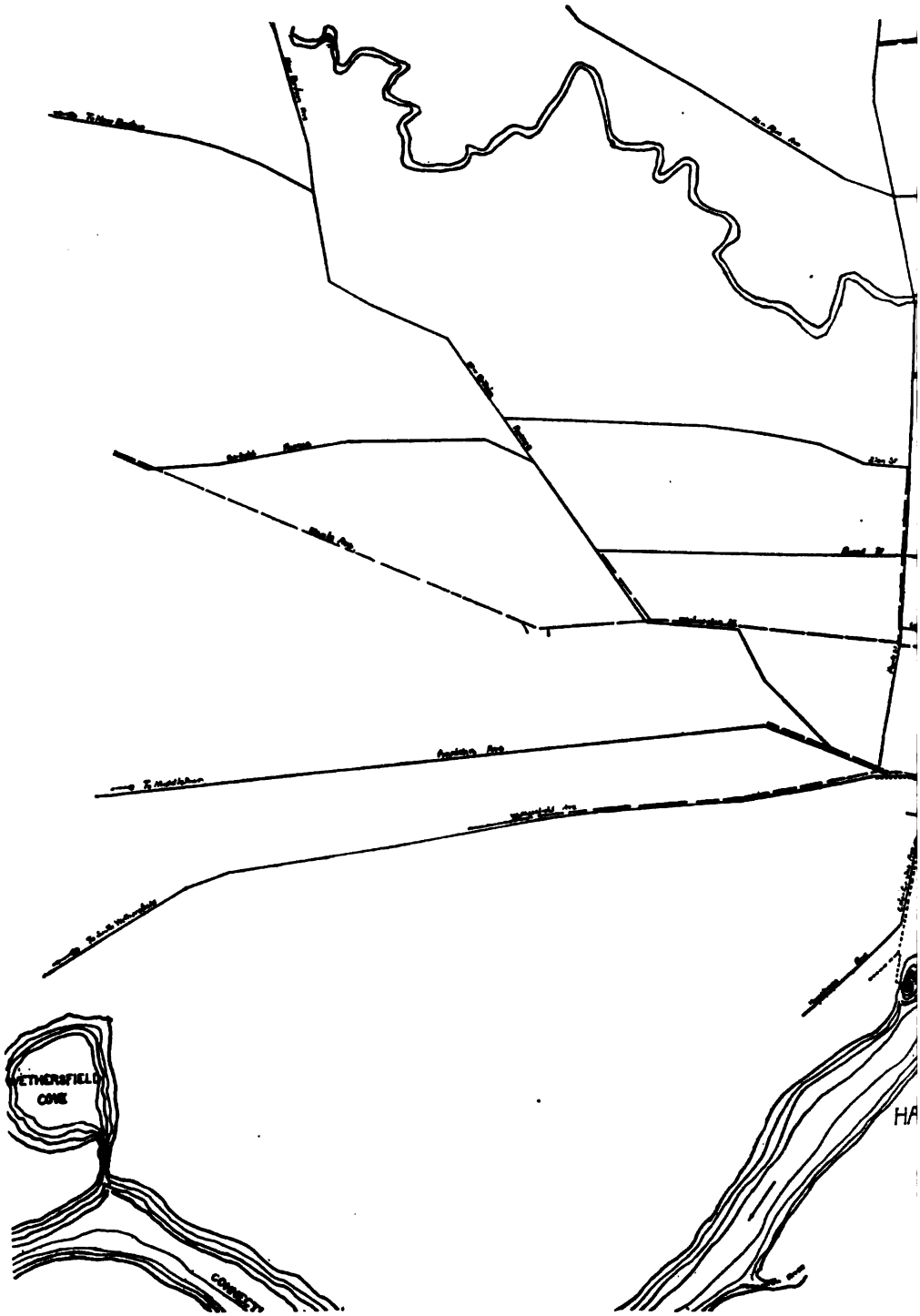

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Bergen St.
Orford St.
Whitney St.
Hansen St.
Grand Ave.
Avenue
Westland St.
Forest St.
Orford St.
Howard Hall St.
Whalley Ave.
Whitney Ave.
Blue Hills Line
To Bloomfield
Wine St.
Grand St.
Dwight St.
Howard St.
Dixwell Ave.
Dwight St.
Howard St.
Dixwell Ave.
Dwight St.
Howard St.
Dixwell Ave

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PLATE III

(11 Pages)

ELECTROLYSIS REPORT

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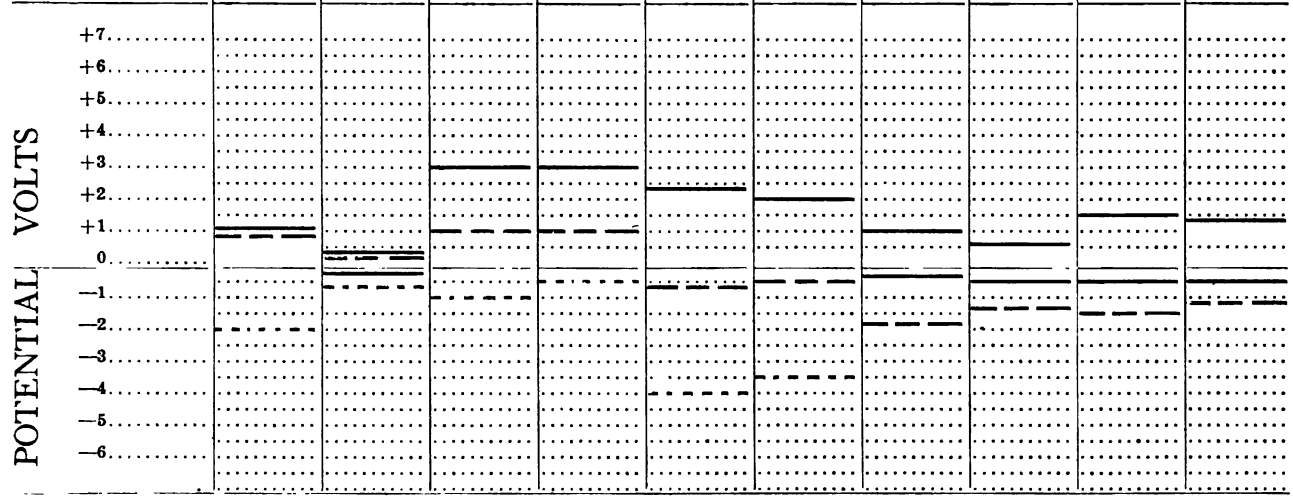
Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths Along Albany Ave., Before and After H.E.L. and S.N.E.T. Bonds Were Changed on November 20 to 21, 1912—Water Pipes Assumed as the Datum or Zero Potential.

———— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; . . . . . Potential of Electric Light Cable Sheaths.

LOCATION	At Morgan St.		At High St.		At Brook St.		At Vine St.		At Blue Hills Ave.	
Distance from Power Station*	3.6		5.8		8.2		9.2		12.0	
DATE	Before	After	Before	After	Before	After	Before	After	Before	After
	11/13/12	11/25/12	11/9/12	11/26/12	11/13/12	11/27/12	11/13/12	12/6/12	11/13/12	12/6/12
TIME	8.48 to 9.48 A. M.	1.45 to 2.20 P. M.	9.05 to 9.40 A. M.	9.28 to 10.03 A. M.	4.19 to 4.39 P. M.	3.45 to 4.05 P. M.	2.37 to 3.37 P. M.	3.00 to 3.31 P. M.	3.03 to 3.36 P. M.	3.59 to 4.19 P. M.



* Measured in thousand feet by rail and feeder routes.

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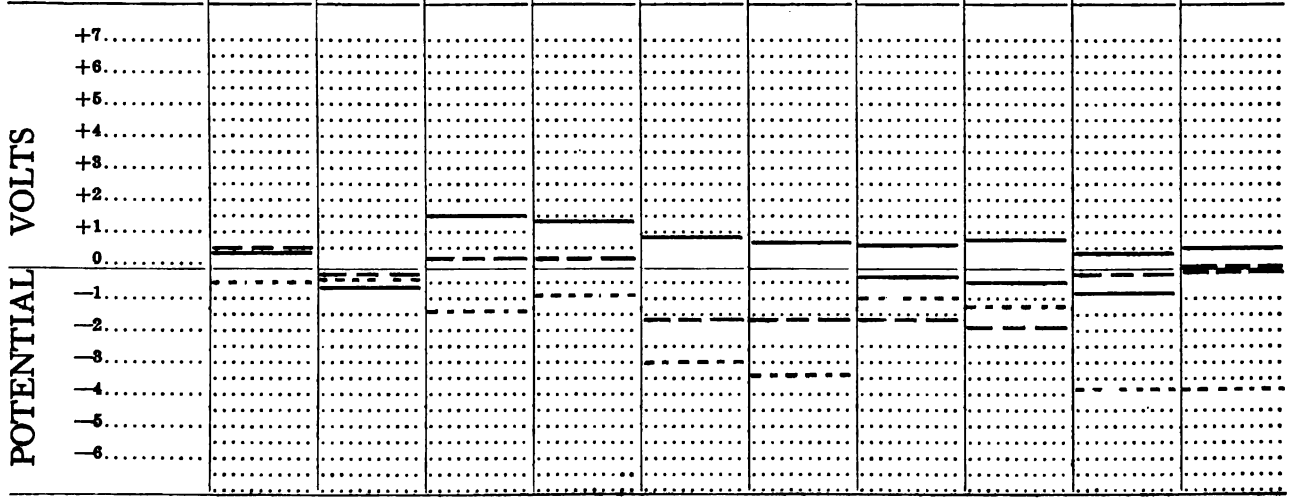
Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths Along Asylum St., Before and After H.E.L. and S.N.E.T. Bonds Were Changed on November 20 to 21, 1912—Water Pipes Assumed as the Datum or Zero Potential.

———— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; . . . . . Potential of Electric Light Cable Sheaths.

LOCATION	At Main St.		At Ann St.		At Hopkins St.		At Sigourney St.		At Woodland St.	
Distance from Power Station*	2.5		3.9		6.1		6.2		10.3	
DATE	Before	After	Before	After	Before	After	Before	After	Before	After
	11/12/12	11/25/12	11/9/12	11/26/12	11/9/12	11/26/12	11/13/92	12/6/12	11/13/12	11/27/12
TIME	9.15 to 10.15 A. M.	9.34 to 10.09 A. M.	10.38 to 11.38A. M.	10.47 to 11.40 A. M.	2.02 to 2.37 P. M.	2.08 to 2.42 P. M.	10.48 to 11.13 A. M.	2.08 to 2.31 P. M.	11.42 to 12.12 A. M.	2.48 to 3.10 P. M.



* Measured in thousand feet by rail and feeder routes.

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Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths Along Capitol Ave., Before and After H.E.L. and S.N.E.T. Bonds Were Changed on November 20 to 21, 1912—Water Pipes Assumed as the Datum or Zero Potential.

———— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; . . . . . Potential of Electric Light Cable Sheaths.

LOCATION	At West St.		At Trinity St.		At Broad St.		At Laurel St.			
Distance from Power Station*	4.2		5.4		7.0		9.5			
DATE	Before 11/13/12	After 12/4/12	Before 11/8/12	After 11/26/12	Before 11/18/12	After 11/27/12	Before 11/11/12	After 11/27/12		
TIME	9.00 to 10.05 A. M.	3.11 to 3.36 P. M.	2.15 to 3.05 P. M.	10.08 to 10.28 A. M.	11.32 to 12.04 P. M.	11.15 to 11.45 A. M.	3.28 to 4.28 P. M.	12.12 to 12.35 P. M.		
POTENTIAL VOLTS +7										
+6										
+5					———					
+4						———				
+3								———		
+2			———	———			———			
+1										
0					— — —	— — —				
−1	— — —	— — —	— — —	— — —			— — —	— — —		
−2	. . . . .	. . . . .			. . . . .	. . . . .				
−3			— — —	— — —						
−4										
−5										
−6										

* Measured in thousand feet by rail and feeder routes.

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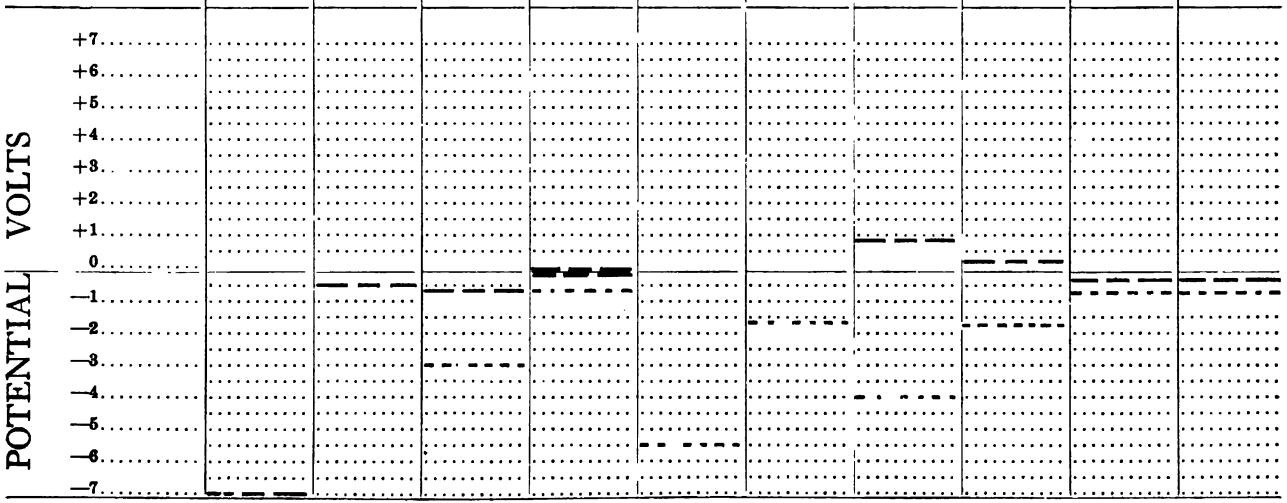
Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths—Water Pipes Assumed as the Datum or Zero Potential. Before and After S.N.E.T. and H.E.L. Bonds were Changed.

——— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; . . . . . Potential of Electric Light Cable Sheaths.

LOCATION	Commerce St. and Grove St.		Grove St. and Front St.		Potter St. between Mechanic and Front St.		Front St. and Arch St.		Grove St. and Prospect St.	
Distance from Power Station*	0.2		0.3		0.9		1.3		1.5	
DATE	Before	After	Before	After	Before	After	Before	After	Before	After
	11/6/12	11/21/12	11/6/12	11/21/12	11/12/12	11/21/12	11/7/12	11/21/12	11/11/12	11/21/12
TIME	2.32 to 3.05 P. M.	11.23 to 12.03 P. M.	3.32 to 4.18 P. M.	2.41 to 3.57 P. M.	11.29 to 12.15 P. M.	4.19 to 4.47 P. M.	11.43 to 12.07 P. M.	10.41 to 11.41A. M.	11.54 to 12.09 P. M.	1.53 to 2.48 P. M.



* Measured in thousand feet by rail and feeder routes.

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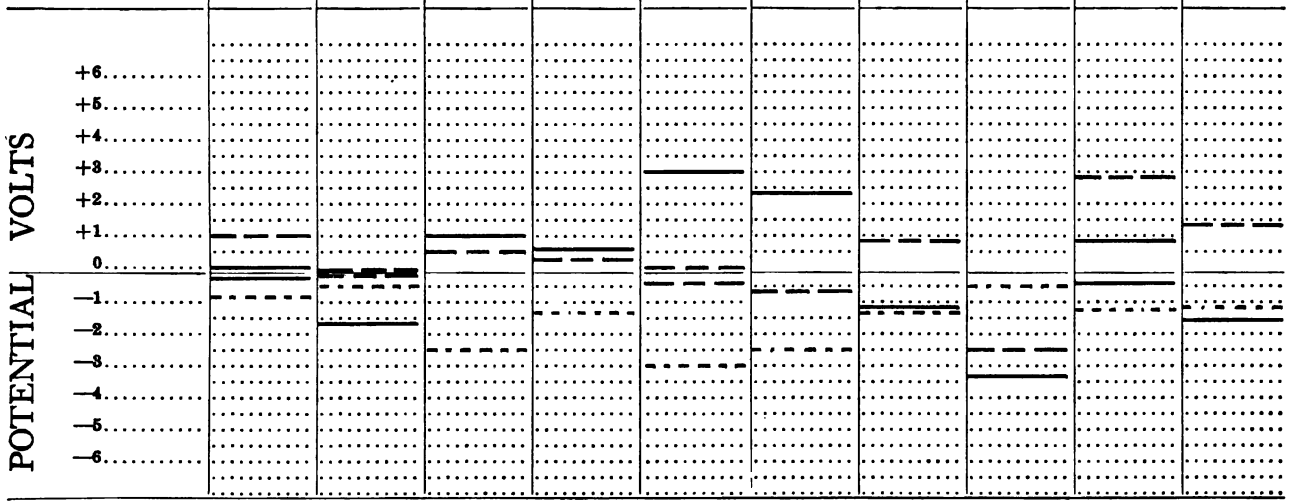
Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths—Water Pipes Assumed as the Datum or Zero Potential. Before and After S.N.E.T. and H.E.L. Bonds were Changed.

——— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; - - - - - - Potential of Electric Light Cable Sheaths.

LOCATION	State St. and Market St.		Main St. and Wells St.		Main St. and Park St.		State St. and Boulevard		Morgan St. and Boulevard	
Distance from Power Station*	1.8		2.3		4.8		0.9		2.2	
DATE	Before	After	Before	After	Before	After	Before	After	Before	After
	11/7/12	11/26/12	11/8/12	11/25/12	11/11/12	11/22/12	11/12/12	12/5/12	11/8/12	12/5/12
TIME	10.05 to 10.50 A. M.	3.23 to 4.23 P.M.	9.41 to 10.31 A. M.	10.50 to 11.05 A. M.	2.08 to 2.38 P. M.	3.23 to 4.18 P. M.	10.55 to 12.00 M.	11.08 to 11.38 A. M.	4.07 to 4.43 P. M.	9.57 to 10.25 A. M.



* Measured in thousand feet by rail and feeder routes.

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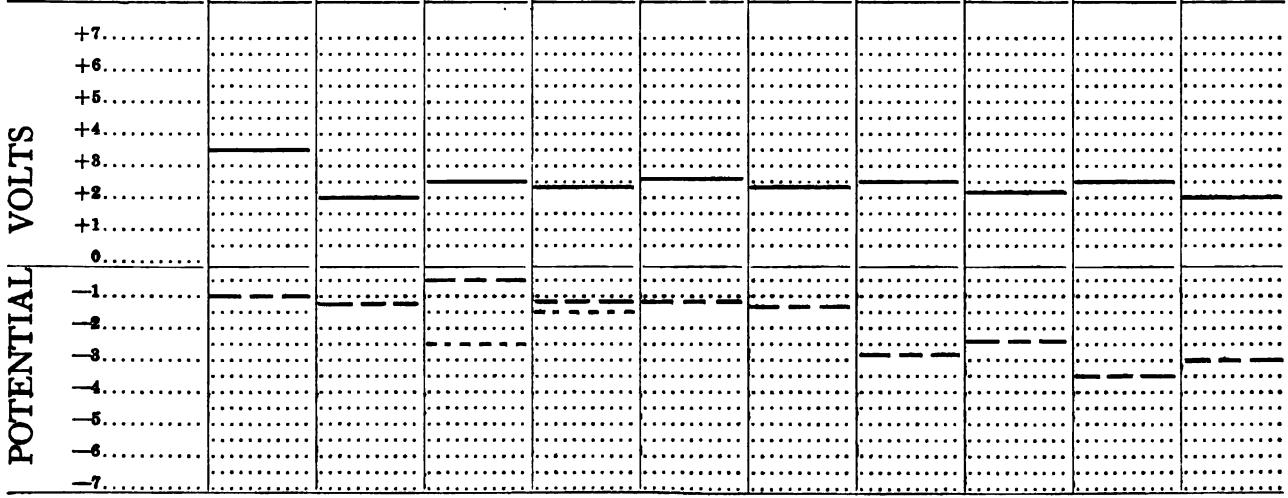
Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths—Water Pipes Assumed as the Datum or Zero Potential. Before and After S.N.E.T. and H.E.L. Bonds were Changed.

———— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; . . . . . Potential of Electric Light Cable Sheaths.

LOCATION	Park St. and Broad St.		Washington St. and Buckingham St.		Washington St. and Park St.		Washington St. and New Britain Ave.		New Britain Ave. and Broad St.	
Distance from Power Station*	7.8		6.0		6.8		9.2		11.1	
DATE	Before	After	Before	After	Before	After	Before	After	Before	After
	11/15/12	12/7/12	11/11/12	12/16/12	11/13/12	12/5/12	11/13/12	12/7/12	11/13/12	12/5/12
TIME	4.32 to 5.02 P. M.	9.04 to 9.34 A. M.	10.32 to 11.01A. M.	11.02 to 11.30 A. M.	2.15 to 3.10 P. M.	3.25 to 3.45 P. M.	3.40 to 4.20 P. M.	10.01 to 10.21 A. M.	2.44 to 3.36 P. M.	4.20 to 4.38 P. M.



* Measured in thousand feet by rail and feeder routes.

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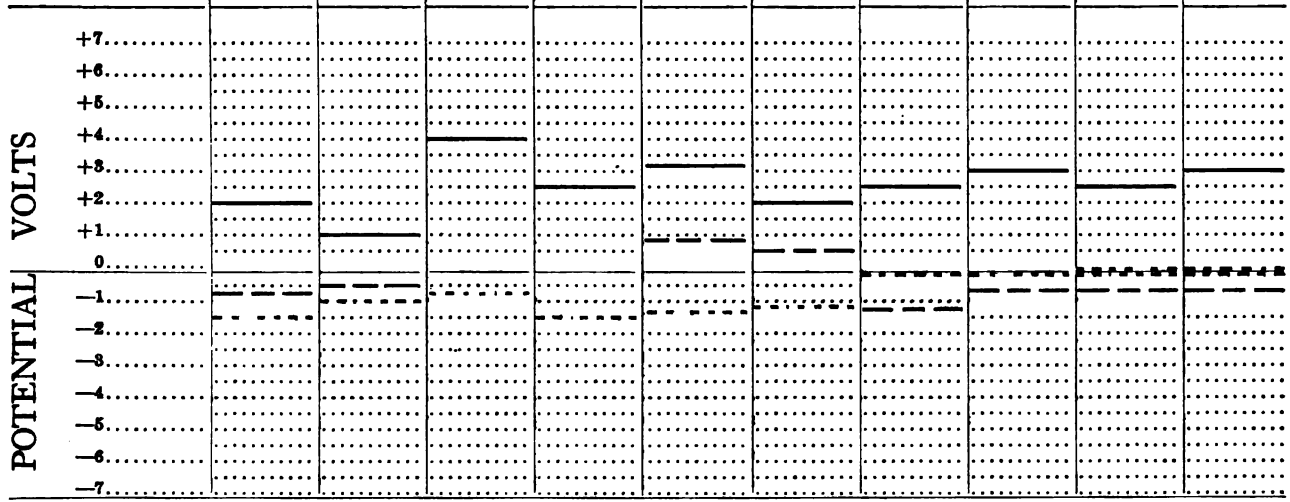
Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths—Water Pipes Assumed as the Datum or Zero Potential. Before and After S.N.E.T. and H.E.L. Bonds were Changed.

———— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; . . . . . Potential of Electric Light Cable Sheaths.

LOCATION	Charter Oak Ave. and South Prospect St.		Charter Oak Ave. and Huyshope Ave.		Jewell St. and Pearl St.		Farmington Ave. Lorraine St.		Prospect Ave. north Of Farmington Ave.	
Distance from Power Station*	3.7		4.6		5.1		11.5		14.7	
DATE	Before	After	Before	After	Before	After	Before	After	Before	After
	11/8/12	12/16/12	11/15/12	12/14/12	11/11/12	12/4/12	11/12/12	12/10/12	11/12/12	12/10/12
TIME	11.02 to 11.57 A. M.	9.48 to 10.23 A. M.	9.05 to 9.50 A. M.	9.53 to 10.14 A. M.	8.56 to 9.36 A. M.	2.06 to 2.36 P. M.	2.20 to 2.52 P. M.	2.25 to 2.65 P. M.	3.31 to 4.30 P.M	3.04 to 3.30 P. M.



* Measured in thousand feet by rail and feeder routes.

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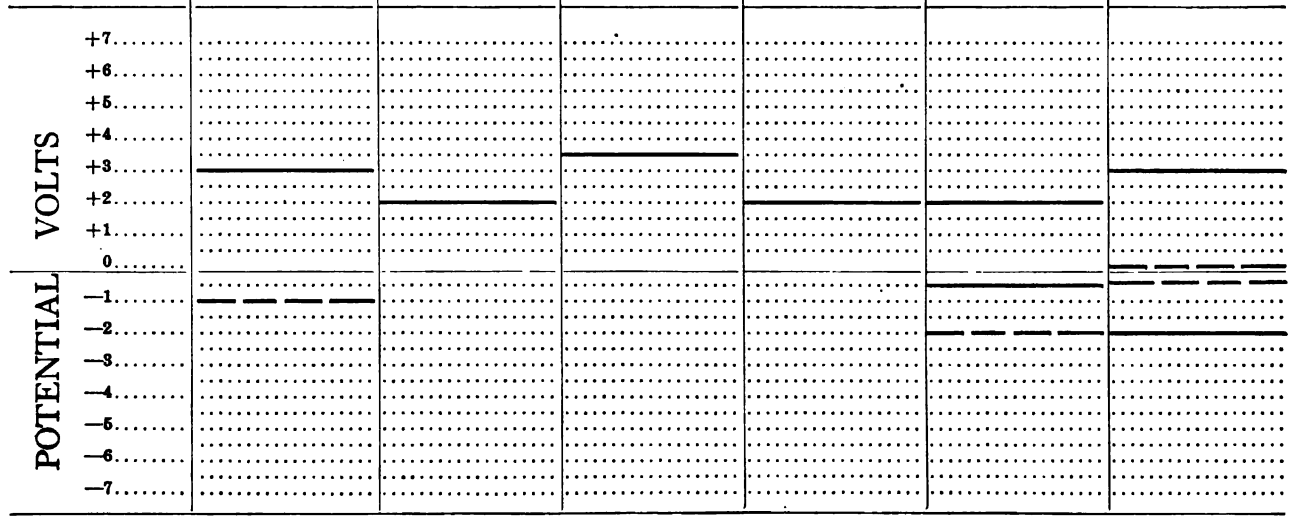
Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths—Water Pipes Assumed as the Datum or Zero Potential. After S.N.E.T. and H.E.L. Bonds were Changed.

———— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; . . . . . Potential of Electric Light Cable Sheaths.

LOCATION	Windsor Ave. and Capen St.	Windsor Ave. At Windsor St.	Windsor Ave. at City Line	Barbour St. and Westland St.	Garden St. and Ashley St.	Ashley St. and Woodland St.
Distance from Power Station*	9.2	13.2	17.5	13.2	7.4	11.1
DATE	12/13/12	12/13/12	12/13/12	12/12/12	12/11/12	12/16/12
TIME	2.56 to 3.20 P. M.	2.43 to 3.43 P. M.	3.07 to 3.34 P. M.	4.14 to 4.34 P. M.	2.12 to 2.42 P. M.	2.04 to 2.49 P. M.



* Measured in thousand feet by rail and feeder routes.

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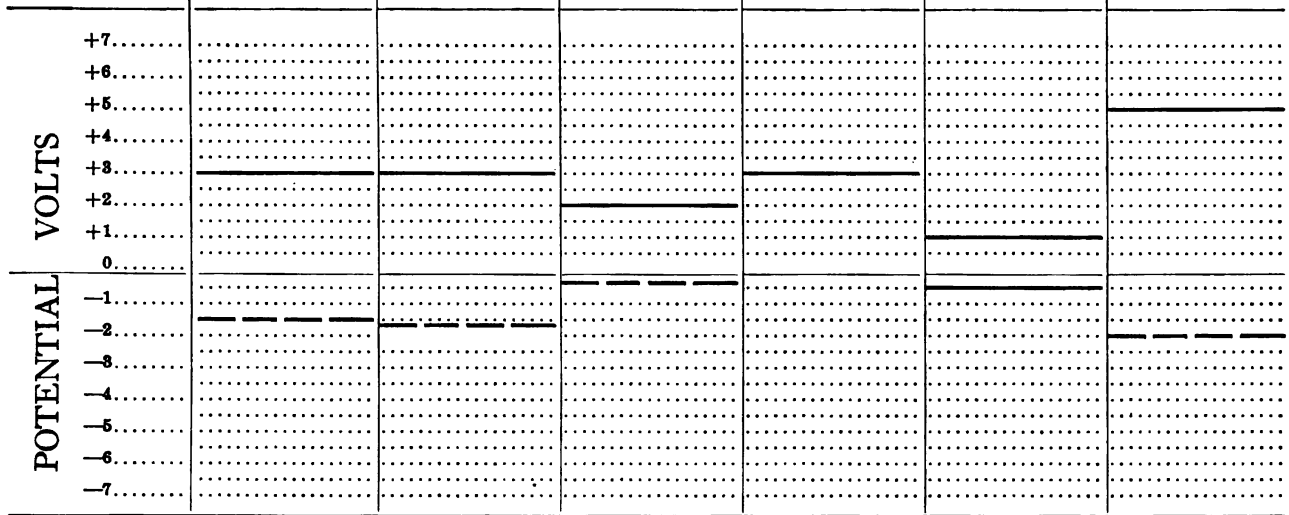
Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths—Water Pipes Assumed as the Datum or Zero Potential. After S.N.E.T. and H.E.L. Bonds were Changed.

———— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; - - - - - - Potential of Electric Light Cable Sheaths.

LOCATION	Farmington Ave. and Sigourney St.	Park St. and Zion St.	Park St. and Prospect Ave.	New Park Ave. and Park St.	New Park Ave. North of Stark St.	Fairfield Ave. and Maple Ave.
Distance from Power Station*	7.6	9.2	15.3	12.0	17.4	18.1
DATE	12/11/12	12/16/12	12/11/12	12/17/12	12/17/12	12/10/12
TIME	9.22 to 9.47 A. M.	3.09 to 3.27 P. M.	10.56 to 11.31 A. M.	4.15 to 4.34 P. M.	3.47 to 4.16 P. M.	4.22 to 5.07 P. M.



* Measured in thousand feet by rail and feeder routes.

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Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths—Water Pipes Assumed as the Datum or Zero Potential. After S.N.E.T. and H.E.L. Bonds were Changed.

———— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; - - - - - - Potential of Electric Light Cable Sheaths.

LOCATION	Wethersfield Ave. and Preston St.	Wethersfield Ave. and Victoria Road	Franklin Ave. and Preston St.	Franklin Ave. and Eaton St.	Zion St. and New Britain Ave.	New Britain Ave. and Newington Ave.
Distance from Power Station*	11.5	16.0	11.6	16.4	18.2	18.2
DATE	12/17/12	12/17/12	12/17/12	12/17/12	12/16/12	12/17/12
TIME	11.06 to 11.43 A. M.	10.10 to 10.40 A. M.	11.18 to 11.35 A. M.	9.28 to 9.50 A. M.	3.53 to 4.23 P. M.	2.39 to 3.06 P. M.

POTENTIAL VOLTS

+9 ..... +8 ..... +7 ..... +6 ..... +5 ..... +4 ..... +3 ..... +2 ..... +1 ..... 0 ..... −1 ..... −2 ..... −3 ..... −4 .....

* Measured in thousand feet by rail and feeder routes.

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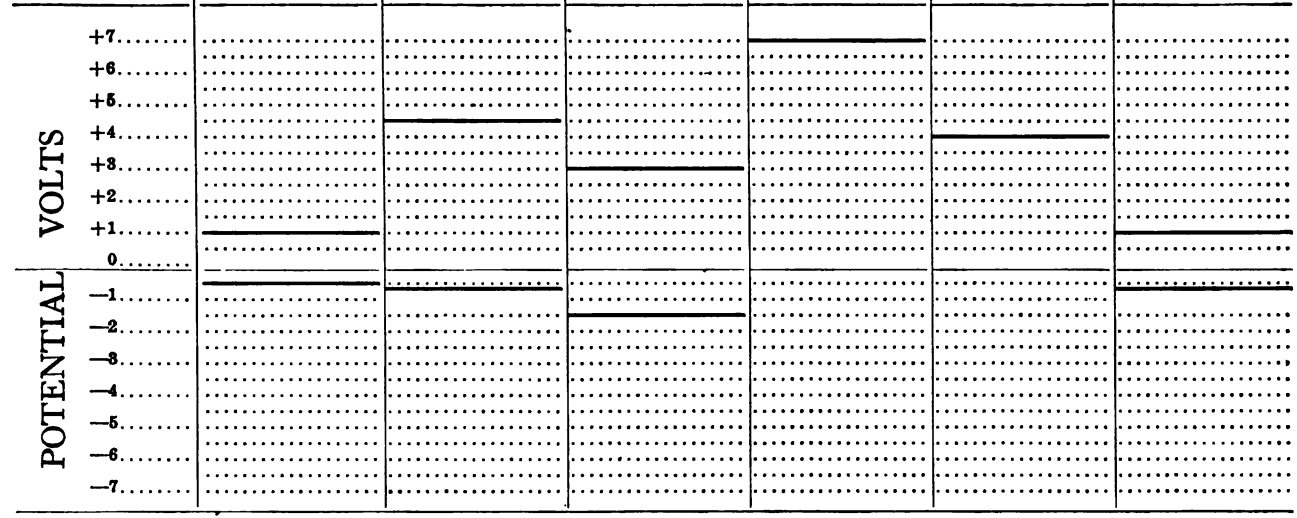
Average Results of Potential Measurements of Water Pipes Referred to Trolley Rails, to Telephone Cable Sheaths and to Electric Light Cable Sheaths—Water Pipes Assumed as the Datum or Zero Potential. After S.N.E.T. and H.E.L. Bonds were Changed.

———— Indicates Potential of Rails; — — — Potential of Telephone Cable Sheaths; . . . . . Potential of Electric Light Cable Sheaths.

LOCATION	Vine St. and Greenfield St.	Vine St. and Holcombe St.	Blue Hills Ave. and Boulevard	Blue Hills Ave. and Burnham St.	Asylum Ave. and Steele Road	Albany Ave. and Bloomfield St.
Distance from Power Station*	12.2	15.6	16.4	20.0	20.7	17.3
DATE	12/9/12	12/9/12	12/9/12	12/18/12	12/18/12	12/18/12
TIME	2.45 to 3.30 P. M.	3.04 to 3.34 P. M.	4.10 to 4.48 P. M.	9.27 to 10.27 A. M.	11.34 to 12.01 M.	11.06 to 12.00 M.



* Measured in thousand feet by rail and feeder routes.

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PLATES IV to XII

(Inclusive)

ELECTROLYSIS REPORT

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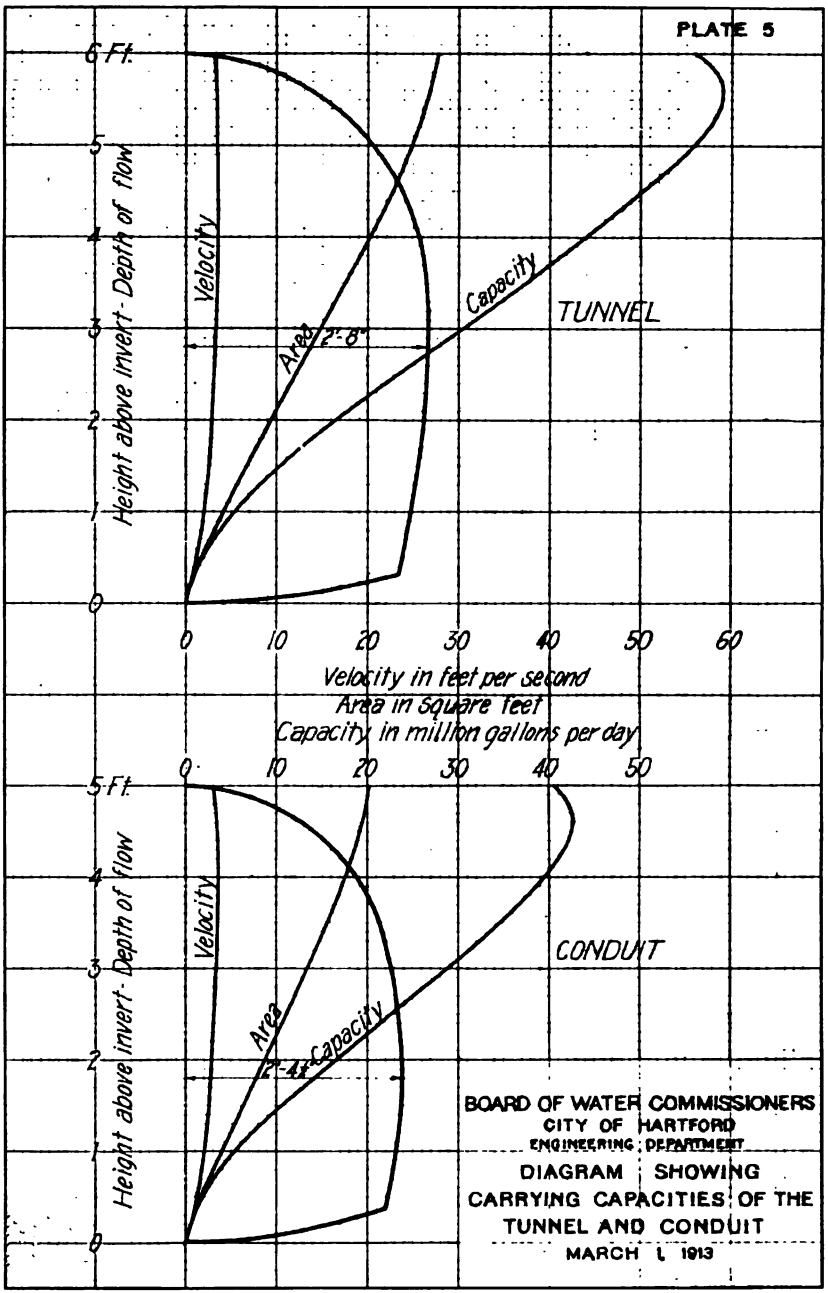

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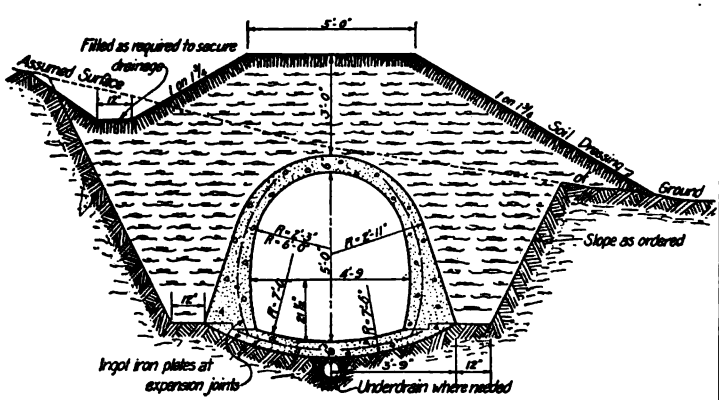
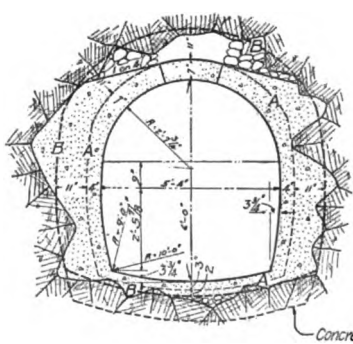
PLATE 6



CONDUIT
IN EARTH TRENCH



TUNNEL

TYPICAL SECTIONS OF CONDUIT AND TUNNEL

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Diagrams showing Chemical and Bacteriological Examination of Water from Reservoir No 1

All Chemical Data given in parts per million
Yearly Averages shown by dotted lines

PLATE 8

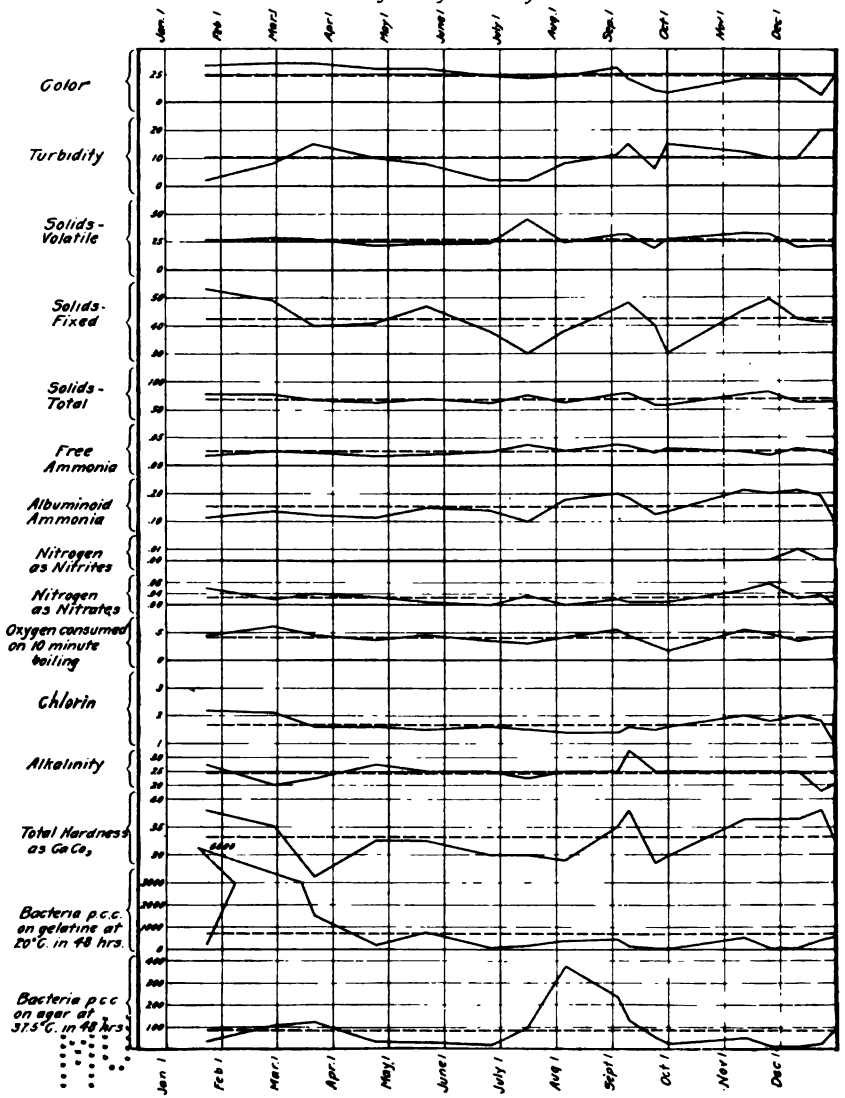

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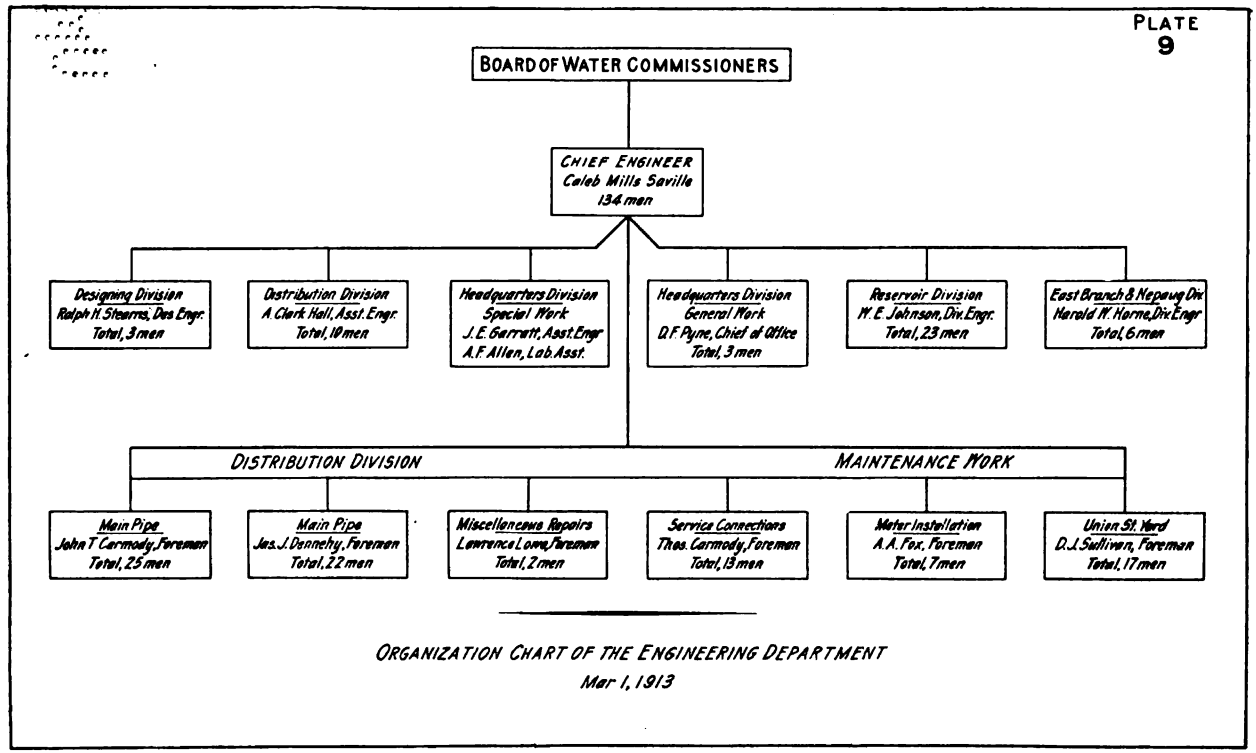
PLATE 9



ORGANIZATION CHART OF THE ENGINEERING DEPARTMENT

Mar 1, 1913

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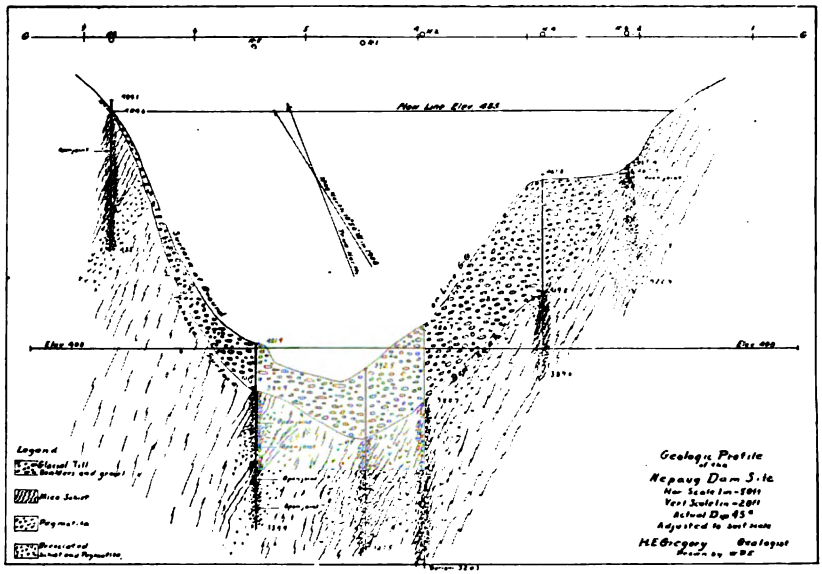

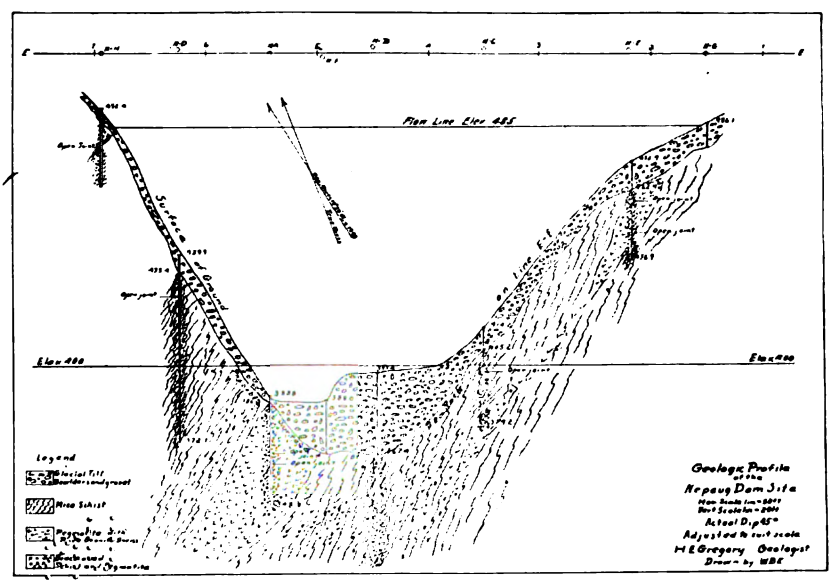

(B) NEPAUG DAM SITE—TWO LOCATIONS.

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A REPORT ON THE FOREST PROPERTY ON THE WATERSHED FROM WHICH THE CITY OF HARTFORD DERIVES ITS WATER SUPPLY.

New Haven, Conn.,
June 27, 1912.

C. M. Saville, Chief Engineer,
Board of Water Commissioners,
Hartford, Conn.

Sir:

A working plan was made for the greater part of this property in 1902 by Professor H. S. Graves of the Yale Forest School. In this report plans were proposed which if carried out would result in the following:

(*a*) A complete stocking of the entire area, except fields reserved for meadow, in a comparatively small space of time.

(*b*) An improvement of the existing forest in respect to the quantity and quality of the timber produced.

(*c*) The improvement of the appearance of the forest.

(*d*) An improvement of the forest in respect to the conservation and purity of the water.

(*e*) The lessening of the danger from forest fires.

In the carrying out of the provisions of the working plan, it was proposed that the work should be under the immediate supervision of the resident engineer; that he be assisted by a forest ranger and that a consulting forester should act as an adviser in all plans of work and report at suitable intervals to the Board of Commissioners upon the progress of the work.

The duties of the engineer were to be as follows:

To have general supervision of all forest work.

To submit annually to the Board of Commissioners a detailed plan of the work for the following year including cuttings, thinnings, planting and protection, together with a

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budget of expenses and probable receipts; this plan to be made in consultation with the consulting forester and countersigned by him.

To submit annually to the Board of Commissioners a report showing the forest work done during the year together with a statement of receipts and expenditures.

The duties of the forest ranger were to be as follows:

To have immediate charge, under the engineer, of all field work; this to include the personal marking of all cuttings and thinnings, the supervision and inspection of the cutting and removal of all wood and timber, the developing of a market for the products sold, the supervision and execution of the plan for fire protection.

Unfortunately for the future of the forest the working plan has not been carried out and each year since its adoption it appears as if less attention were given to complying with its provisions. At first a consulting forester was employed but after a time his services were discontinued. The man engaged as forest ranger is a regular employee of the Board of Commissioners, who performs a great diversity of services of which those relating to the improvement of the woods is only a small part. The engineer has failed to submit annually to the Board a detailed plan of work for the following year and a report showing the forest work accomplished during the preceding year together with receipts and expenditures. It is my opinion that without an annual report to the Board setting forth in detail the plan of the work to be done during the succeeding year and the estimate of expenditures and receipts, very little can be done in a thoroughly systematic and efficient manner. Such a report should be insisted upon by the Board and every opportunity afforded for the marketing of the wood products at the best obtainable price.

As a result of the failure to present a report the work accomplished during the past ten years has been for the most part of a haphazard nature. A little thinning has been done here and there and the more open fields have been planted. No additional provisions have been made looking toward better fire protection.

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Since the original plan was made, more than ten years ago, unforeseen conditions have arisen which call for marked changes in its execution. If a consulting forester were employed these changes would have been made sufficiently early to result in a minimum of loss to the future development of the forest. The following two cases illustrate the above:

1. In the planting of conifers and broadleaved trees in mixture, the broadleaved species have failed to develop with the conifers. This has been very largely due to the cutting back of the broadleaved species each winter by rabbits and possibly to some extent by deer. As soon as this was discovered the planting of conifers and hardwoods in mixture should have been given up and the hardwoods in the previously made plantations should have been replaced by conifers (three-year-old transplants). It is now too late to make this change except in mixed plantations made during the past five years. It is important that these later mixed plantations be refilled as noted above not later than the spring of 1913. Furthermore in all plantations where the failures exceed the ten per cent. the failed places should have been filled the spring following the first planting. As it is very few of the plantations already made are complete. In many cases less than fifty per cent. of a complete stand has been attained.

2. The chestnut blight (*Diaporthia parasitica*) has developed on practically all parts of the tract since the working plan was made. The working plan did not contemplate the cutting of timber in the immediate future except in improvement thinnings. The presence of this disease, however, makes a radical change necessary in the cutting operations in the immediate future. It would have been advantageous if these operations could have been begun last year.

For the purposes of this report the entire land property is classified as follows:

(*a*) The open areas.

(*b*) The woodland areas.

The Open Areas: These areas which aggregate several hundred acres are colored yellow on the map. They may be put in the following sub-divisions:

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1. Meadows which will be permanently kept open for the production of hay.

2. Open fields chiefly planted or covered with grass and with insufficient woody growth to prevent successful planting.

3. Abandoned pastures more or less grown up with an irregular growth of birch, cedar and other species of little economic value and too dense for economic planting.

4. Areas cut over within the past ten or twenty years and more or less completely stocked with a stand of sprouts.

The Meadows: As soon as any of the meadows are abandoned for the production of hay they should be planted with white and red pine in alternate rows. Use three-year-old transplants set at six-foot intervals. Before planting all trees standing in the open fields or in hedgerows should be removed.

The Open Fields: All of the area embraced under the term "open fields" was formerly cultivated fields which have not been abandoned sufficiently long to have grown up to woody vegetation sufficiently dense to prevent successful planting without previously clearing, or at least partly clearing, the land. This area is made up as follows:

(*a*) The open fields that have been planted.

(*b*) The open fields that have not been planted.

During the past ten years approximately two hundred acres have been planted (statement of Mr. Johnson). These acres are marked "Planted" on the map.

Condition of the Plantations: The coniferous species planted to date have on the whole done fairly well. The hardwoods have failed. In all, practically two hundred acres have been planted (statement of Mr. Johnson), chiefly mixtures of white pine and various hardwoods. The failure of the hardwoods and the neglect to fill failed places has resulted in the plantations being too irregular and wide-spaced for best results. This condition can still be remedied in plantations made during the past five years by refilling blanks and replanting hardwoods with three-year-old whites or red pine transplants. The planting has not been done in a systematic manner. It has

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many times been done in patches, only planting the easiest sites, where the land could be easily furrowed. It is unfortunate that the fields were not planted in their entirety.

The white pine plantations have suffered from the attack of the white pine weevil which has killed the leaders on many of the trees. In my opinion this injury is not so serious as considered by many. It is a native insect which has always done more or less damage in white pine stands.

Recommendations for Immediate Improvement of the Plantations:

(*a*) Refill all failed spaces and replace hardwoods in plantations made during the past five years with white or red pine. This should be done in the spring of 1913.

(*b*) Go over all the white pine plantations in July and August, 1912, and cut out all infested tops. The leaves on infested tops will be brown or dead. Burn all material cut out so as to destroy the insects. This should be done each year.

(*c*) All overwood of every kind that interferes with the development of the planted trees should be cut and removed next winter (1912-13). Unfortunately when the plantations were made many old apple trees and other short-boled, broad-crowned trees were left standing in the fields or along the hedgerows. They should have been removed before the planting was done. If not removed they will seriously interfere with the uniform development of the plantation The value of the trees for fuel should more than pay the cost of removal.

Unplanted Open Fields: Only a very limited acreage of open fields still remains to be planted. For the most part these are of small size and widely scattered. Wherever they occur they should be planted as early as possible while still they are sufficiently open to permit planting without undue expense for previous clearing of the land. Open areas in the vicinity of Reservoir 4 should be planted next spring if possible as they are rapidly growing up to an irregular growth of brush which will not result in a satisfactory forest. I call particular attention to the area marked "four" on the map. Before planting, all the apple trees, hedgerows, and other round

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headed trees standing in the open, should be removed and the area burned over in the early spring. Plant with mattock at intervals of six feet. Use white and red pine transplants. There are in the aggregate many small areas in old abandoned pastures and elsewhere that are sufficiently open to plant, although too small or too rough to furrow. These should all be planted as soon as possible, planting in holes at intervals of six feet.

Abandoned Pastures already with some Woody Vegetation: These areas, also marked yellow on the map, in the aggregate form a large acreage. Ten years ago when the working plan was made these areas were much more open than at present and many of them might have been successfully planted. The growth of the past ten years has developed to such an extent that planting is no longer practical without considerable expense for clearing off the present vegetation which is not recommended. I would suggest the following treatment for these areas:

(*a*) Remove all large spreading trees in the open or in hedgerows that stand above the growth that is coming in by natural agencies.

(*b*) Depend upon future thinnings to shape the stand in the direction of the most valuable species.

The Areas Cut Over recently and more or less completely Stocked with a Stand of Sprouts:

These areas are also marked yellow on the map and are illustrated by the large tract marked "11" and "12" on the drainage of Reservoir 4, "4" and "7" and "13" on the drainage of Reservoir 6, and "20" on the drainage of Reservoir 2. None of these areas require immediate attention. At the proper time, however, improvement thinnings should be made at which time all the old trees left in the original cutting should be removed.

The Nursery: The nursery is in exceedingly poor condition and I would strongly recommend that it be abandoned. Nursery work demands intensive culture and the liberal use of fertilizers, neither of which this nursery has received. In its present condition the stock produced will be of inferior

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quality and will cost two or three times as much as if purchased from a responsible forest nursery. I would recommend that all future stock required be purchased. The order should be placed in the autumn for the following spring's planting. I recommend no further planting of hardwoods. Future planting should be confined to white and red pine with spruce and hemlock bordering the reservoirs where variety is desired. All future planting should be in holes prepared with mattock and three-year-old transplants should be used. Transplant stock should not cost more than $5.00 to $6.00 per thousand and a man working nine hours should plant 350 to 700 plants depending upon the conditions of the soil and cover.

Planting near the City Reservoir: The spruce hedge on the north side is dead with the exception of two or three trees. I would recommend that it be removed and replaced with 15-18 inch hemlock planted at intervals of 18 inches. Place a group of conifers (pines and spruces) in the northeast corner and remove the small red maple and elm. No further planting advised. The street trees on the east side are only in fair condition. All dead wood should be carefully pruned out and the wounds covered with paint. The last tree in the row should be replaced with a more perfect specimen.

The Woodland Areas: These areas are colored red, green, brown, orange and blue on the map depending upon the age of the stand. The map accompanying this report has been constructed from data obtained from the personal examination of the tract and from computations made from the map ten years ago by Professor Graves. The property added to the City holdings since Professor Graves' report is incorporated on the present map under proper classification. In order to facilitate comparisons the same scheme of coloring is used to designate the different age classes with the exception that each class is approximately ten years older. Time did not permit an accurate demarkation of all areas but in the main I believe them to be fairly accurate and to indicate the relative proportion of each class of timber.

The composition of the forest is fully discussed in Professor Graves' report and requires no further comment here. Its

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general condition as it was ten years ago is shown in the following quotation from the above report: "The Water Board is to be congratulated upon the excellent condition of the forest upon its watershed."

Since the report was made the forest has shown a marked deterioration due entirely to the presence of the chestnut blight (*Diaporthia parasitica*). This disease is present everywhere over the entire watershed. As chestnut is the dominant tree on nearly all parts of the watershed, its presence will necessitate an immediate change in the management of the forest during the next few years. At the present time the greatest damage to the chestnut has occurred in the forests adjacent to Reservoir 6. It is here that the largest proportion of chestnut occurs. I would recommend that all the chestnut be cut as soon as a satisfactory market can be found. It is particularly important that the large chestnut, suitable for ties, posts, poles, and timber, be cut before it dies and becomes worthless.

Improvement Thinnings: In the report of ten years ago, special emphasis was placed upon the desirability of improvement thinnings which would ultimately cover the entire woodland area. This area includes more than fifty per cent. of the total area of the property. The objects and methods of thinning are fully set forth in Professor Graves' report. As stated in this report the thinnings should be financially profitable and at the same time improve the future stand.

During the past ten years an average of from 100 to 150 cords of wood have been annually removed in the thinnings made (statement of Mr. Johnson), and between one and two hundred acres have been thinned. In every case where thinnings have been made the forest shows improvement except where chestnut is the dominant tree and where the thinnings were made so as to favor the conservation of this species. Professor Graves recommended that at least four or five hundred cords be taken out each year in improvement thinnings. Scarcely one-third of this removal has been attained. Because of the presence of the chestnut blight, it is recommended that in all future improvement thinnings the chestnut be entirely

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removed, and where this treatment opens up the forest to too great an extent, it be underplanted the following spring with pine. In all cases where improvement thinnings are made in the future because of appearance the brush should be piled and burned for a distance of 100 feet from the drives. Elsewhere the tops may be lopped and left scattered over the ground to decay and add to the enrichment of the soil.

Cuttings: With the exception of the improvement thinnings mentioned above there has been no removal of timber from any part of the tract since the working plan was made with the exception of a few posts and poles. Extensive cuttings should be made during the next few years in all of the older stands and particularly in those which contain a large proportion of chestnut. In the aggregate there is a large amount of valuable timber on the woodland areas shown in brown, orange and blue on the map while considerable timber of lesser size can be cut from the areas colored red and green. As already stated the chestnut which forms the dominant trees over the larger part of the area must be harvested in order to save it from decay and total loss.

In order to make the following recommendations clear, the woodland area as shown on the map is discussed in three parts. The numbers as shown on the map represent the various areas embraced in each part.

(*a*) Woodland adjacent to Reservoir 6—Nos. 1 to 19 on the map.

(*b*) Woodland adjacent to Reservoirs 1, 2, 3, 5—Nos. 1 to 59 on the map.

(*c*) Woodland adjacent to Reservoir 4—Nos. 1 to 16 on the map.

Woodland adjacent to Reservoir 6: In Graves' report the treatnent of the woodland recommended is entirely along the lines of thinnings and the planting up of open spaces. Although ten years have intervened since the report was made no planting has been done and no thinnings have been made. The improvements have been chiefly in maintaining an excellent system of well-made roads, clear-cutting a narrow strip around the reservoirs, and the cutting out of small undergrowth along

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portions of the drives. No destructive fires have occurred since the report was made. If a clear strip is to be maintained about the reservoir it is necessary to cut back the sprouts each year until the growth is exhausted. This has not been done. It is expensive and wholly unnecessary from either an economic or esthetic view to cut out the small undergrowth even along the curves. The appearance of the forest is improved by allowing it to remain and the forest soil is better protected.

I submit the following recommendations regarding the treatment of this woodland:

1. The area cut clear around the reservoir should be kept clear by the yearly cutting back of the sprouts.

2. The underbrush should not be cut from beneath the trees either in clearings about the lakes or in thinnings.

3. Cuttings or improvement thinnings should be made over all the woodland in the immediate future, primarily for the purpose of saving the chestnut. Where the chestnut exceeds sixty per cent. of the stand the area should be cut clear and planted the following spring. Where the chestnut is a smaller proportion of the stand, the oak, tulip, ash, hickory, etc., may be left to form the future forest. Where the timber left is insufficient to form a suitable stand it should be underplanted with pine the spring following the cutting. Where the timber left is sufficiently dense to form a stand, no planting is necessary.

4. All open areas adjacent to the reservoir should be planted.

5. All the large scattered trees along hedgerows and in the open over the area colored yellow on the map should be removed.

In conducting these operations I recommend the following:

(*a*) Mark the trees for removal over the entire area of woodland in September and October, 1912.

(*b*) Sell the marked timber on the stump at a contract price of a definite amount per thousand for timber, a definite price per pole for each class of poles, and a definite price for posts, ties and cordwood. The contract should call for the timber being removed at a stated time and the cutting should

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be in accordance with regulations made by the Board under the supervision of the Board. Inspection is necessary in order that the prescribed regulations are properly carried out.

If it is found that a satisfactory contract cannot be made on the above basis, the chestnut might be sold on the stump and later the Board undertake the supplementary thinnings, lopping of brush, etc., with their own labor.

This operation is of sufficient magnitude to call for the services of an experienced woods foreman, who would take charge of the entire operation to see that it is properly executed, to mark the timber, to find a market for the various products, to arrange for the securing of necessary stock for planting and oversee the planting.

If the lumber is sold on the stump a mill could be advantageously set on the open land below the reservoir. The cutting and hauling should be done next winter. With the large amount of wood that ought to be removed in the immediate future a good woods foreman is imperative and of far more importance than the services of a consulting forester.

Woodland adjacent to Reservoirs 1, 2, 3 and 5: The areas adjacent to Reservoirs 2, 3 and 5 are nearly all wooded with more than 50% over 50 years of age, while nearly all of the remainder is over 20 years old. The thinnings accomplished to date are mainly on this area. My general recommendations are that as soon as the operations are completed on the area adjacent to Reservoir 6, similar operations should be begun on this area and continued until the entire area with timber over forty years of age has been gone over. On the trap rock ridge, however, where the soil is scant and the growth very small, the cutting or thinning if done at all should be light. Improvement thinnings with the taking out of the chestnut should also be done in the stands under forty years of age where the thinnings will pay the cost of removal.

The same treatment should be extended to embrace the woodland north and west of Nott's corner and two or three small lots between Reservoir 1 and Round Hill. The remaining lands in the vicinity of Reservoir 1 are colored yellow on the map and have been discussed in the earlier part of this report.

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Woodland adjacent to Reservoir 4: With the exception of one small tract marked 9 on the map, the open grass land marked 3 and 7, and the area marked 4, the entire tract is in young timber and sprouts. As already noted the area marked 4 should be planted together with the other small open places not reserved for meadow. At least four destructive fires have occurred on the woodland area within the past five years. *No* immediate work is recommended on this area that is now in timber, but better fire protection.

Summary of Recommendations: In order to insure a more efficient management of this property from the standpoint of practical forestry, I summarize the more important recommendations made in the body of this report that call for immediate attention as follows:

1. The permanent employment of a man to occupy the position of woods foreman or ranger, who for the next three or four years will give his entire time to the handling of the woodlands.
2. More systematic attention to the management of the woodlands and the presentation April first of each year of a detailed plan of work for the following year and a report showing the work done the previous year.
3. The employment of a consulting forester to inspect and criticise the work accomplished each year and to lay out a plan for the coming season.
4. The cutting out of the insect-infested leaders in all the pine plantations in July and August and the burning of the same.
5. The marking of all the timberland on Reservoir 6 the present summer or next autumn.
6. The cutting of this timber next winter in accordance to recommendations in the body of this report.
7. The cutting of all apple trees and all other large trees that stand over the plantations already made.
8. The refilling of all failed places next spring in the plantations made during the past five years, and the replacing of the hardwoods with pine.

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9. The planting of open lands adjacent to Reservoir 4 in accordance with recommendations in the body of this report.

10. A re-survey of the boundaries of the property with the cutting out of lines of woodland adjacent to Reservoir 6 before the marking of the timber for cutting is undertaken.

J. W. TOUMEY.

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APPENDIX

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TABLE I.

LIST OF MAIN PIPE LAID FROM MARCH 1, 1912, TO MARCH 1, 1913.
Hartford Distribution System.

Name of Street	Hyd. Br. 6″	Hyd. Br. 8″	6″	8″	10″	12″	16″	24″	Cost
Affleck St.—Allen Place northerly				208					$1,534.53
Affleck St.—Ward St. to Park St.	54		21	707					
Arbor St.—Complete	24						682		2,514.31
Blue Hills Ave.—Holcomb St. to City Line	54						4,104		11,887.70
Boulevard—Prospect Ave. to Whiting St.			2,208	132					1,887.99
Brown St.—George St. westerly	9			530					742.10
Cabot St.—Homestead Ave., northerly	10			630					683.52
Cedar St.—Complete	57			1206					2,041.99
East St.—(West Hartford) Park St. southerly			2163						2,063.69
Edgewood St.—Capen St. northerly				357					1,020.93
Edgewood St.—Garden St. westerly	16			692					
Essex St.—Complete	14			624					1,053.92
Forest St.—Hawthorne St. to Farmington Ave.	30						1540		5,810.41
Franklin Ave.—Morris St. to Preston St.	197					50	4700		17,100.81
Franklin Ave.—Hanmer St. to Victoria Road						1663			
Freeman St.—Extending to Maple Ave.	6		438						460.08
George St.—Standish St. to South St.	8			300					382.90
Harrison Place—Complete				412					569.37
Hawthorne St.—Laurel to Forest St.	20				990				1,699.47
Homestead Ave.—Oakland Terrace to Woodland St.				286					258.94
Hungerford St.—Park St. northerly	41			345					870.68
Kent St.—Extending to Norfolk St.				778					796.20
Morgan St.—Market St. to Connecticut Boulevard	39							645	4,675.98
Morris St.—Complete	16			960					1,193.71
Newton St.—Extending to Park St.				1010					1,279.33

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TABLE I—continued.

LIST OF MAIN PIPE LAID FROM MARCH 1, 1912, TO MARCH 1, 1913.
Hartford Distribution System.

Name of Street	Hyd. Br. 6″	Hyd. Br. 8″	6″	8″	10″	12″	16″	24″	Cost
Oak St.—Grand St. southerly	17			296					640.73
Otis St.—Extending to Campfield Ave.	18			938					1,139.04
Park Terrace—Summit St. to Hamilton St.	59						1427		4,628.55
Sigourney St.—Collins St. to Ashley St.	16			477					847.39
Squire St.—Complete	18			640					1,081.65
Victoria Road—Franklin Ave. easterly	24					920			1,852.90
Ward Place—Extending easterly	7			413					543.83
Wethersfield Ave.—Morris St. to Bond St.	45				2850				15,695.20
Wethersfield Ave.—Bond St. to Preston St.	50					1844			
Wethersfield Ave.—South St. to Victoria Road	45				2835				
Wethersfield Ave.—Victoria Road southerly				600					1,116.95
Wilson St.—Hillside Ave. westerly	6		513						510.24
Hydrant branches	348	20							
Total	1,248	20	5,343	12,541	6,675	4,477	12,453	645	

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MAIN PIPE ABANDONED IN 1912.

Location	Hyd. Br. 4″	Hyd. Br. 6″	1½″	2″	3″	4″	6″	8″	Date Laid	Kind of Pipe
Affleck St.—Ward St. to Park St.	21					675	10		1859–61	Cast Iron
Arbor St.								26		Cast Iron
Blue Hills Ave.—Holcomb St. north	62						4104		1897	Cast Iron
Cedar St.—Complete	28					1161	37		1860	Cast Iron
Forest St.—Hawthorne St. to Farmington Ave.	30						1460		1861	Cast Iron
Franklin Ave.	29									Cast Iron
Hawthorne St.—Laurel St. to Forest St.							995		1861&1899	Cast Iron
Hungerford St.—Park St. northerly	13					334	43		1860	Cast Iron
Morgan St.—Market to Connecticut Boulevard							414		1858	Cast Iron
Morris St.—complete	11					672	350		1857	Cast Iron
Oak St.—Grand St. south						201	95		1862	Cast Iron
Sigourney St.—Collins St. to Ashley St.				485						Galv. W. Iron
Squire St.						637	11		1859	Cast Iron
Wethersfield Ave.							600		1880–88	Cast Iron
Total	194			485		3680	8119	26		

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TABLE II.

PUBLIC HYDRANTS SET FROM MARCH 1, 1912 TO MARCH 1, 1913.

Street	Location	Kind
Adelaide St.	Opposite No. 34	Four Way
Adelaide St.	Opposite No. 115	Four Way
Adelaide St.	Opposite No. 137	Single
Adelaide St.	Opposite No. 195	Single
Affleck St.	Opposite No. 15	Four Way
Affleck St.	Opposite No. 22	Four Way
Albany Ave.	Opposite No. 352	Steamer
Annawan St.	Northwest corner of Dean St.	Four Way
Annawan St.	Opposite No. 21	Four Way
Arbor St.	Southwest corner of Boulevard	Four Way
Arbor St.	250 feet south of Boulevard	Four Way
Arbor St.	250 feet east of Orange St.	Four Way
Bliss St.	Opposite No. 30	Four Way
Bodwell St.	Opposite No. 17	Four Way
Bodwell St.	Opposite No. 64	Four Way
Bond St.	Opposite No. 4	Four Way
Bond St.	Opposite No. 103	Four Way
Bond St.	Opposite No. 146	Four Way
Brown St.	Opposite No. 30	Four Way
Brown St.	Opposite No. 185	Four Way
Bushnell St.	Opposite No. 30	Four Way
Bushnell St.	Opposite No. 54	Four Way
Bushnell St.	Opposite No. 92	Four Way
Bushnell St.	Opposite No. 110	Four Way
Cabot St.	300 feet south of Albany Ave.	Four Way
Cabot St.	500 feet north of Homestead Ave.	Four Way
Cabot St.	250 feet north of Homestead Ave.	Four Way
Campfield Ave.	South of Barker St.	Four Way
Campfield Ave.	Opposite No. 125-127	Four Way
Capitol Ave. Ext.	Opposite Newton St.	Four Way
Cedar St.	Opposite No. 26	Four Way
Cedar St.	Opposite No. 58	Four Way
Cedar St.	Opposite No. 86	Four Way
Commerce St.	Opposite No. 40	Steamer
Commerce St.	Opposite No. 69	Steamer
Commerce St.	Northwest Corner Grove St.	Steamer
Commerce St.	Opposite No. 113	Steamer
Edgewood St. Ext.	550 feet west of Garden St.	Four Way
Edgewood St. Ext.	300 feet west of Garden St.	Four Way
Essex St.	West of Maple Ave.	Four Way
Essex St.	East of Retreat Ave.	Four Way
Fenwick St.	South of South St.	Four Way
Franklin Ave.	Opposite No. 30	Four Way

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TABLE II—continued.

PUBLIC HYDRANTS SET FROM
MARCH 1, 1912 TO MARCH 1, 1913.

Street	Location	Kind
Franklin Ave.	Opposite No. 54	Four Way
Franklin Ave.	Opposite No. 98	Four Way
Franklin Ave.	Opposite No. 140	Four Way
Franklin Ave.	Opposite No. 172	Four Way
Franklin Ave.	Opposite No. 224	Four Way
Franklin Ave.	Northwest corner Barker St.	Four Way
Franklin Ave.	Northeast corner Adelaide St.	Four Way
Franklin Ave.	Opposite No. 336	Four Way
Franklin Ave.	Opposite No. 424	Four Way
Front St.	Opposite No. 73	Four Way
Front St.	Opposite No. 115	Four Way
Front St.	Opposite No. 207	Steamer
Front St.	Opposite No. 285	Steamer
George St.	Northwest corner South St.	Four Way
Grove St.	Opposite No. 135	Steamer
Grove St.	Opposite Mechanic St.	Steamer
Hawthorne St.	North side, west of Laurel St.	Four Way
Hawthorne St.	Opposite No. 133	Four Way
Kent St.	Midway	Four Way
Kent St.	250 feet south of Norfolk St.	Four Way
Kent St.	Southwest corner of Norfolk St.	Four Way
Love Lane	100 feet north of Westland St.	Steamer
Love Lane	Opposite No. 100	Steamer
Morgan St.	East of Market St.	Four Way
Morgan St.	Opposite West Freight House	Four Way
Morris St.	Northeast corner Congress St.	Four Way
Newton St.	Northwest corner of Park St.	Four Way
Newton St.	North of Park St.	Four Way
Newton St.	Midway	Four Way
Newton St.	Opposite No. 79	Four Way
Oak St.	Opposite No. 10	Four Way
Otis St.	West of No. 50	Four Way
Otis St.	Opposite Greenhouse	Four Way
Park Terrace	Opposite No. 286	Four Way
Park Terrace	Opposite No. 308	Four Way
Park Terrace	250 feet north of Hamilton St.	Four Way
Preston St.	Opposite No. 36	Four Way
South St.	Opposite No. 9	Four Way
Squire St.	Southwest corner Park St.	Four Way
Squire St.	Opposite No. 11	Four Way
Squire St.	Northwest corner Ward St.	Four Way
Summit St.	Opposite College Building	Steamer
Victoria Road	550 feet west of Wethersfield Ave.	Four Way

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TABLE II—continued.

PUBLIC HYDRANTS SET FROM
MARCH 1, 1912 TO MARCH 1, 1913.

Street	Location	Kind
Victoria Road	800 feet west of Wethersfield Ave.	Four Way
Victoria Road	250 feet east of Franklin Ave.	Four Way
Ward Place	300 feet east of Hillside Ave.	Four Way
Wethersfield Ave.	Opposite No. 133	Four Way
Wethersfield Ave.	Northwest corner of Mannz Ct.	Four Way
Wethersfield Ave.	Southwest corner of Barker St.	Four Way
Wethersfield Ave.	Southwest corner of Adelaide St.	Four Way
Wethersfield Ave.	Southwest corner of Bliss St.	Four Way
Wethersfield Ave.	150 feet South of Preston St.	Four Way
Wethersfield Ave.	Opposite No. 315	Four Way
Wethersfield Ave.	Southwest corner of Brown St.	Four Way
Wethersfield Ave.	Opposite No. 365	Four Way
Wethersfield Ave.	Northwest corner Roosevelt St.	Four Way
Wethersfield Ave.	Opposite No. 410	Four Way
Wethersfield Ave.	250 feet north of Eaton St.	Four Way
Wethersfield Ave.	Opposite No. 475	Four Way
Wilson St.	350 feet west of Hillside Ave.	Single

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TABLE III.

NUMBER AND SIZE OF GATES AND HYDRANTS NOW IN USE.

Gates	DIAMETER IN INCHES												Hydrants	
Year When Set	1½	2	3	4	6	8	10	12	16	20	24	30	Total Gates	No. of Hydrants
1854–55					26	7		12	5				50	62
1856			2	14	50	2							68	41
1857				14	17	3							34	18
1858					2								2	5
1859			1	5	6								12	12
1860					2								2	4
1861				2	14								16	7
1862				5	11	1			2				19	10
1863				1	13	3		2					19	7
1864					5								5	3
1865														3
1866			1	6	11	3	1		2	10			34	9
1867					17								17	11
1868				1	7								8	6
1869					14	2							16	12
1870				3	10					4			17	9
1871			1	3	16	4							29	19
1872				2	21			3	2	1			29	24
1873			1	4	35	4			2				46	21
1874				4	19	1		2	1	14			41	10
1875				16	17	2	2			3			40	17
1876				5	6	1			1				13	11
1877				9	21	1							31	13
1878				3	9								12	7
1879				6	9								15	15
1880				6	8	1							15	14
1881				5	10								16	12
1882			1	7	12	1		2					23	9
1883				6	18		1			8			33	14
1884				1	12				1	4			18	34
1885				3	15	2			1	1			22	15
1886				3	14								22	11
1887				1	11				1				13	11
1888					9					1			10	12
1889				2	15								17	23
1890				1	19	3							23	27
1891					22		6			2			30	16
1892					23	2	4		1	2			37	25
1893				1	17				2				20	13
1894					12	1				2			15	16
1895				22	12		8	2					44	11
1896				21	68	7	3	14	10	2		6	131	40
1897				26	60	4		18	10	3		1	122	108
1898				15	32	1	5	1					54	42
1899				14	43	2		6	3	1			69	50
1900				12	30	5	2	4					53	28
1901				13	43	11	12	4	1				84	51
1902		2		10	41	7	10	7	7				84	45
1903				12	19	1	2	1					35	16
1904				4	27	1	3	1					36	12
1905				10	32	4	4						50	12
1906	2			27	29	7	3		2				70	35
1907	2			39	34	22	2	3					107	44
1908				33	91	10	4	9	24		5		176	38
1909				25	62	33	5	2	2	6	6	4	145	43
1910				42	82	43	5	13	26	2			213	38
1911		2		38	122	59	2	29	4		4		260	43
1912				28	155	32	11	6	16		1		249	103
Total March 1, 1913	4	4	7	540	1562	293	95	146	126	67	16	11	2871	1367

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TABLE IV.

CAPACITY IN GALLONS OF EACH OF THE SIX RESERVOIRS FOR EACH FOOT IN DEPTH.

Reservoir No. 1, West Hartford		Reservoir No. 2, West Hartford		Reservoir No. 3, West Hartford		Reservoir No. 4, Farmington		Reservoir No. 5, West Hartford		Reservoir No. 6, West Hartford	
34	145,985,543	41	283,694,375	36	145,490,000	20	601,353,592	19	82,998,000	27	765,115,175
33	137,346,976	40	270,063,013	35	137,816,000	19	553,288,529	18	75,079,000	26	721,612,542
32	128,707,409	39	256,431,652	34	130,142,000	18	505,223,467	17	67,160,000	25	678,109,909
31	120,069,842	38	242,800,291	33	122,468,000	17	457,158,405	16	59,242,000	24	634,607,276
30	111,431,275	37	229,168,930	32	114,794,000	16	409,093,342	15	51,323,000	23	591,104,643
29	102,793,108	36	215,537,569	31	107,120,000	15	361,028,280	14	43,404,000	22	547,602,011
28	95,780,541	35	203,707,432	30	100,749,000	14	321,678,405	13	38,150,000	21	509,670,183
27	88,767,974	34	191,877,298	29	94,378,000	13	282,328,530	12	32,897,000	20	471,738,355
26	81,755,407	33	180,047,164	28	88,008,000	12	242,978,655	11	27,643,000	19	433,806,527
25	74,742,840	32	168,217,030	27	81,636,000	11	203,628,780	10	22,390,000	18	395,874,699
24	67,730,270	31	156,386,896	26	75,266,000	10	164,278,905	9	17,136,000	17	357,942,871
23	62,435,348	30	146,589,193	25	70,118,000	9	133,320,610	8	14,059,000	16	326,898,391
22	57,140,426	29	136,791,493	24	64,970,000	8	112,362,315	7	10,982,000	15	295,843,911
21	51,845,504	28	126,993,793	23	59,822,000	7	86,404,020	6	7,906,000	14	264,794,431
20	46,550,582	27	117,196,093	22	54,764,000	6	60,445,725	5	4,829,000	13	233,744,951
19	41,255,659	26	107,398,393	21	49,526,000	5	34,487,430	4	1,752,000	12	202,695,471
18	37,366,809	25	99,664,340	20	45,245,000	4	27,589,944	3	574,000	11	179,647,347
17	33,477,959	24	91,930,289	19	40,960,000	3	20,692,458	2	115,000	10	156,599,223
16	29,589,109	23	84,196,238	18	36,681,000	2	13,794,972	1	7,000	9	133,551,099
15	25,700,259	22	76,462,187	17	32,400,000	1	6,897,486			8	110,502,975
14	21,811,409	21	68,728,126	16	28,118,000					7	87,454,851
13	19,583,330	20	62,872,617	15	24,565,000					6	72,610,903
12	17,355,357	19	57,017,098	14	21,011,000					5	57,766,955
11	15,127,281	18	51,161,579	13	17,457,000					4	42,928,007
10	12,899,205	17	45,306,060	12	13,903,000					3	28,079,059
9	10,671,039	16	39,450,541	11	10,349,000					2	13,235,112
8	9,364,775	15	34,912,733	10	8,545,000					1	6,617,556
7	8,058,513	14	29,374,927	9	6,741,000						
6	6,752,251	13	25,837,121	8	4,937,000						
5	5,446,089	12	21,299,315	7	3,133,000						
4	4,139,723	11	16,761,509	6	1,328,000						
3	3,800,600	10	14,071,320	5	1,107,000						
2	3,461,489	9	11,381,133	4	885,000						
1	3,122,372	8	8,690,946	3	364,000						
		7	6,000,759	2	143,000						
		6	3,310,572	1	21,000						
		5	2,650,331								
		4	1,990,092								
		3	1,329,853								
		2	669,614								
		1	9,375								

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TABLE V.

RAINFALL IN INCHES FOR EACH MONTH, RECORDED AT RESERVOIR No. 1, WEST HARTFORD.

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1868	3.23	1.75	2.75	4.95	9.10	4.56	1.88	7.15	9.98	0.77	4.45	1.48	52.00
1869	3.60	3.94	6.39	1.63	4.86	7.76	1.33	1.07	3.46	13.33	3.40	5.04	55.81
1870	4.84	6.15	5.26	4.24	1.15	4.18	1.36	1.64	0.70	4.86	3.40	1.95	39.73
1871	2.26	3.20	5.09	2.07	4.78	6.16	2.91	7.02	1.24	6.49	3.60	1.99	46.81
1872	1.08	1.94	3.29	1.35	3.41	4.26	6.08	6.50	3.95	2.60	4.27	2.80	41.53
1873	4.07	2.35	2.20	3.45	6.25	0.15	1.98	6.02	2.56	3.62	2.43	3.87	38.95
1874	5.57	2.75	1.15	6.49	3.52	4.86	5.22	6.50	2.83	1.12	2.30	1.35	43.66
1875	2.06	3.40	3.31	3.15	1.18	2.59	2.18	7.86	1.40	3.60	4.37	0.92	36.02
1876	1.25	4.29	3.47	2.97	4.45	2.54	5.94	0.25	4.43	1.00	3.56	4.45	43.60
1877	2.83	1.09	9.38	2.18	0.43	5.29	3.09	3.63	0.37	7.21	6.09	0.67	42.26
1878	5.78	3.95	3.00	4.59	2.32	4.11	2.22	3.75	2.22	2.22	5.25	5.94	45.35
1879	1.71	3.05	3.03	4.00	1.60	3.74	3.36	6.50	1.70	0.73	1.61	3.08	34.11
1880	2.78	3.06	3.00	1.33	0.73	2.03	7.02	5.20	2.98	1.60	4.80	1.85	36.88
1881	3.80	2.30	4.70	1.16	3.33	2.35	4.80	3.00	0.25	1.86	4.80	4.06	36.91
1882	2.42	5.77	2.60	1.15	3.42	1.31	3.22	1.15	10.88	2.69	0.85	1.58	37.04
1883	1.95	4.42	1.65	1.24	2.95	2.30	3.17	3.20	3.13	5.89	1.30	2.44	33.64
1884	4.45	5.62	4.87	3.29	2.43	1.53	3.83	3.11	0.89	2.48	2.85	6.21	41.56
1885	4.80	3.35	1.00	3.14	2.60	2.73	6.35	10.27	2.18	5.16	4.63	2.50	48.71
1886	5.28	6.08	2.58	3.33	3.18	1.97	5.45	2.43	4.31	2.29	4.67	3.76	45.33
1887	5.84	6.37	4.46	2.52	0.20	6.00	4.52	7.65	2.12	2.99	2.78	4.80	50.25
1888	4.22	4.07	3.03	2.10	4.50	1.12	2.98	3.84	3.55	5.23	5.22	5.43	50.29
1889	4.97	1.34	1.64	3.47	3.00	3.69	9.33	4.70	3.72	5.10	3.29	2.41	51.66
1890	2.25	3.48	6.18	2.92	5.08	3.37	3.33	4.12	4.55	5.86	0.80	3.18	45.62
1891	3.48	4.27	4.75	3.35	2.00	1.92	5.41	3.52	3.28	3.57	2.93	4.99	48.47
1892	4.77	1.68	2.16	1.01	5.59	2.31	2.84	6.69	2.57	1.39	5.81	1.43	38.25
1893	3.20	4.27	5.11	3.61	7.18	2.71	2.18	4.37	2.08	5.35	2.59	3.67	46.32
1894	1.72	3.12	1.88	2.23	6.14	0.48	1.36	2.25	5.80	5.94	5.13	4.12	40.17
1895	4.33	1.42	2.90	4.33	2.13	2.20	4.54	6.92	2.34	4.52	6.01	3.18	45.37
1896	1.32	7.10	4.86	0.73	2.17	4.33	2.78	3.32	5.96	3.42	2.74	1.02	40.75
1897	3.50	3.14	2.98	2.21	5.43	4.24	15.14	3.57	1.65	0.60	5.85	5.23	53.59
1898	3.31	4.26	2.01	3.19	5.63	1.80	4.17	7.20	2.14	5.51	7.91	2.09	49.22
1899	3.35	2.53	5.92	2.74	2.16	2.52	4.33	0.90	3.53	2.20	2.63	1.42	34.78
1900	3.60	3.23	6.29	1.53	4.26	3.66	3.93	3.13	1.93	3.03	4.31	2.79	47.29
1901	1.39	0.50	6.33	11.17	7.23	0.69	3.24	5.53	4.64	3.74	2.06	9.34	56.36
1902	2.22	3.02	6.02	3.95	2.04	3.94	7.03	4.70	6.03	6.30	0.74	6.65	52.69
1903	3.14	4.50	6.42	2.90	0.25	10.81	5.63	7.53	4.43	3.70	2.42	3.34	55.12
1904	3.24	2.31	3.20	5.70	2.36	2.45	3.51	5.49	6.93	2.78	1.82	2.28	42.07
1905	3.46	1.33	3.36	2.43	1.21	4.63	3.62	6.40	4.40	2.57	2.10	3.94	39.45
1906	2.25	1.67	4.53	4.76	4.21	2.11	6.32	2.05	3.20	6.23	2.52	2.17	42.07
1907	4.53	1.92	1.07	2.66	3.77	4.10	1.73	1.30	10.77	6.33	5.63	5.45	49.26
1908	3.47	5.33	3.09	1.97	7.11	1.76	5.05	5.41	1.63	1.62	1.00	3.65	41.09
1909	3.23	5.24	4.20	7.59	2.56	3.15	1.63	3.90	3.72	1.85	2.15	3.20	42.42
1910	6.23	3.62	1.16	4.12	2.77	4.07	2.55	2.49	3.34	0.31	4.73	1.69	37.63
1911	2.80	2.39	3.94	3.03	1.79	2.52	2.63	6.33	2.39	10.02	4.41	3.19	45.54
1912	1.50	3.21	6.76	3.99	5.17	0.57	2.26	3.15	2.09	1.73	4.09	4.59	39.16
	156.63	158.33	178.47	146 98	158.63	146.07	184.43	203.26	163.40	172.01	165.40	151.24	1985.34
Mo. Ave.	3.43	3.53	3.97	3.27	3.53	3.25	4.10	4.52	3.63	3.82	3.63	3.36	

Yearly Average (45 years).....44.12

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TABLE VI.

RAINFALL IN INCHES FOR EACH MONTH, SINCE JANUARY, 1984, AS RECORDED BY G. J. CASE, Esq., OF CANTON, CONN.

Month	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	Mean
Jan....	2.90	3.73	1.93	3.44	4.97	3.17	3.52	1.54	3.11	4.10	4.32	6.69	2.14	3.22	4.08	3.62	7.89	2.62	2.13	3.64
Feb. ..	3.58	0.66	9.30	3.66	4.12	4.17	9.11	0.49	5.98	4.46	2.17	1.12	1.97	2.18	6.04	6.39	5.11	2.44	3.20	4.01
March.	1.71	2.39	5.55	3.41	2.25	6.91	5.66	5.96	5.38	5.31	4.40	3.21	4.95	1.34	3.11	4.83	.69	4.89	6.87	4.15
April..	2.54	3.50	1.03	2.55	3.72	2.03	1.64	12.30	5.13	3.07	5.08	2.38	4.97	2.30	3.17	8.25	3.96	3.28	4.27	3.96
May...	5.58	1.79	2.93	4.96	6.74	2.09	6.05	7.21	1.44	0.81	2.43	0.93	4.43	3.91	5.69	2.87	3.64	2.60	4.48	3.71
June ..	0.58	3.53	3.80	4.92	2.71	6.44	3.81	1.24	4.20	11.69	3.09	3.77	2.48	4.18	2.16	1.96	4.37	2.57	0.90	3.60
July...	1.92	3.94	3.39	16.96	4.97	6.83	4.11	3.03	8.71	3.86	3.55	4.22	7.80	1.45	3.87	3.28	3.00	2.90	2.65	4.76
Aug. ..	0.73	6.02	4.12	6.56	7.02	3.00	2.55	6.42	3.73	7.34	6.24	4.10	3.19	1.37	3.03	4.14	2.68	5.38	3.38	4.26
Sept. .	5.58	3.13	6.58	2.09	2.31	4.83	2.56	5.75	7.15	4.46	6.92	5.41	3.01	10.50	1.62	3.96	4.24	4.98	2.72	4.62
Oct....	6.46	6.15	3.73	1.14	5.44	2.50	4.15	4.66	6.11	4.10	3.38	2.68	5.63	6.91	2.34	1.62	1.02	9.58	4.15	4.30
Nov. .	3.55	3.96	3.15	6.31	7.22	1.84	6.33	2.27	1.06	3.21	1.30	2.33	2.36	5.93	.82	2.18	6.42	4.08	4.66	3.63
Dec. ..	3.77	4.10	1.61	5.71	3.78	2.84	2.60	9.07	6.95	4.60	2.96	3.38	4.09	5.36	3.20	5.14	2.08	2.97	4.26	4.13
Year ..	38.90	42.90	47.12	61.71	55.25	46.65	52.09	59.95	58.95	57.01	45.84	40.22	47.02	48.65	39.13	48.24	45.10	48.29	43.67	48.77

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TABLE VII.

AVERAGE DAILY CONSUMPTION PER MONTH IN MILLION GALLONS.

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1901	.....	.....	.....	.....	.....	7.017	7.806	7.490	7.548	7.080	6.558	6.851	*7.193
1902	6.807	6.830	6.506	6.894	7.017	7.228	7.104	6.997	7.246	6.926	6.653	6.673	6.915
1903	6.970	6.926	6.915	.....	7.439	7.104	7.499	7.419	7.574	6.336	5.964	5.884	†6.912
1904	6.759	7.168	6.584	6.260	6.439	6.328	6.110	6.117	6.347	6.047	5.921	6.091	6.348
1905	6.029	6.495	6.247	6.132	6.052	6.479	6.389	5.898	5.991	6.146	6.915	5.945	6.143
1906	6.008	5.870	5.877	6.157	6.518	6.827	6.753	6.845	7.137	7.034	6.673	6.322	6.502
1907	6.518	6.537	6.548	6.752	7.865	8.251	7.747	7.015	6.835	6.608	6.512	6.080	6.939
1908	6.046	6.509	6.376	6.582	7.012	7.571	7.590	7.312	7.706	7.649	7.001	6.741	7.008
1909	6.699	6.790	6.895	7.456	7.600	7.948	8.035	7.610	7.574	7.383	7.055	7.145	7.349
1910	7.249	7.166	7.400	7.586	7.847	8.410	8.466	7.880	7.936	7.720	7.399	7.440	7.708
1911	7.579	7.400	7.494	7.950	8.230	8.338	8.588	8.366	8.337	8.320	8.057	7.966	8.051
1912	8.317	8.730	8.625	8.445	8.800	9.128	9.245	8.694	8.675	8.674	8.283	8.142	8.646

*Average for 7 months. †Average for 11 months.

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TABLE VIII.

ELEVATIONS OF WATER SURFACES OF RESERVOIRS.

Reservoir No.	1	2	3	4	5	6
Date	Height	Height	Height	Height	Height	Height
Jan. 1, 1912	32.9	41.0	35.8	21.0	19.0	28.0
Feb. 1, 1912	27.3	39.6	35.9	19.3	19.0	27.3
Mar. 1, 1912	33.3	41.0	36.0	19.6	19.0	28.0
April 1, 1912	34.0	41.0	36.0	21.0	19.0	28.0
May 1, 1912	34.0	41.0	36.0	21.0	19.0	28.0
June 1, 1912	33.1	41.0	36.0	20.6	19.0	28.0
July 1, 1912	30.1	40.7	34.8	19.4	17.9	23.8
Aug. 1, 1912	26.8	31.0	28.9	18.9	12.5	22.5
Sept. 1, 1912	28.2	30.9	28.8	13.4	11.5	21.8
Oct. 1, 1912	27.0	31.0	26.5	13.3	9.7	15.6
Nov. 1, 1912	27.8	31.2	26.4	8.2	8.0	13.5
Dec. 1, 1912	28.6	32.0	26.9	5.1	11.1	10.0
Jan. 1, 1913	30.1	32.2	29.4	9.1	14.0	7.8
Feb. 1, 1913	28.2	28.1	32.7	13.6	11.5	13.6
Mar. 1, 1913	26.3	17.2	30.7	15.5	6.5	15.9

Minimum Elevations During Period.

Elevation.....	24.8	15.5	26.3	5.0	5.8	3.8
Date.....	Feb.13 1912	Feb.25 1913	Oct.16 1912	Nov.22 1912	Feb.21 1913	Dec.26 1912

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TABLE IX.

METERS IN USE MARCH 1, 1913.

Name of Maker	Name of Meter	Size in Inches									Total
		5/8"	3/4"	1"	1½"	2"	3"	4"	6"	8"	
Neptune Meter Company	Trident	1,909	1,540	317	38	24	9	5	....	....	3,842
Neptune Meter Company	Crest	....	....	....	....	6	15	14	3	....	38
National Meter Company	Empire	2,566	2,205	266	56	23	4	2	....	....	5,122
National Meter Company	Nash	129	14	....	....	....	....	....	....	....	143
National Meter Company	Gem	....	....	....	....	1	....	1	1	....	3
National Meter Company	Crown	84	146	45	1	5	1	2	....	....	284
Thomson Meter Company	Thomson	10	3	14	13	6	5	6	....	....	57
Thomson Meter Company	Lambert	1,041	1,424	407	75	61	33	12	1	....	3,054
Hersey Manufacturing Company	Hersey	177	126	69	5	7	3	2	1	....	390
Hersey Manufacturing Company	Torrent	....	....	....	....	....	6	3	4	....	13
Hersey Manufacturing Company	Detector	....	....	....	....	....	....	2	8	1	11
Worthington	Rotary	22	22	12	....	....	....	....	....	....	56
Hartford Meter Company	Undine	....	....	....	....	2	3	....	....	....	5
Union Meter Company	King	22	40	16	....	....	....	....	....	....	78
Pittsburg Meter Company	Keystone	9	....	....	....	....	....	....	....	....	9
Total	....	5,969	5,520	1,146	188	135	79	49	18	1	1,3105

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TABLE X.

SERVICE PIPES IN USE MARCH 1, 1913.

Total number of new services of all sizes laid during the year in Hartford, West Hartford, Wethersfield and Bloomfield, 695.

The distribution of service pipes in the different towns served by the Hartford Water Works is exhibited in the following table:

Town	Number and Sizes										Totals of all Sizes
	¾″	1″	1¼″	1½″	2″	2½″	3″	4″	6″	8″	
Hartford	10201	1438	62	180	166	4	7	174	82	13	12327
West Hartford	599	34	6	8	4	.....	1	2	5	...	659
Wethersfield	227	16	4	.....	...	.....	...	1	1	...	249
Bloomfield	35	7	.....	.....	...	.....	...	1	...	...	43
Totals	11062	1495	72	188	170	4	8	178	88	13	13278

Thirty-eight services were abandoned during the year.

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TABLE XI. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Adams St.	8	8						608	588						
Adelaide St.	71	59						2791							
Affleck St.		54						42	915						
Albany Ave.	65	180					1871	3070	221	3559	171	1032	611		
Alden St.	30							815							
Allen Place	27							2761							
Allyn St.		26	66								1618				
American Row		26										182			
Amity St.	18							1380							
Ann St.	72	37	20					46				2100			
Annawan St.	10	25						1045							
Arbor St.		24							32			682			
Arch St.		34												1155	
Arthur Place							218								
Ashley St.	87							3364							
Ashton St.								237							
Asylum St.	407	343						7963	878	10	2399	627	2910		
Atheneum St.		9					381	36							
Atlantic St.	19						245	211		31					
Atwood St.	12						361	574				908			
Avon St.	55	16						1573							
Babcock St.	63	23						2084							
Baltimore St.	6							990							
Barbour St.	117							4937							
Barker St.	15	25						598	1124						

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Barnard St.	9							13	772						
Bartholomew Ave	40	4						2015		435	17				
Beach St.	30							588							
Beacon St.	51	8						2959							
Belden St.	7	22							910						
Bellevue St.	66	8						3126							
Belmont St.	9							867							
Benton St.	57							2279	415						
Blake St.								220							
Bliss St.	27	5						1060							
Blue Hills Ave.	56	107										8949			
Bodwell St.	9	42						1113							
Bond St.	40	68						2110	561						
Bonner St.	21							1131							
Boulevard	42	17							1298						
Brady Place	19							542							
Broad St.	220	77					480	2284	20		10	8346			
Broadview Ter.									477						
Brook St.	40						309	1758							
Brown St.	68	9						2316	530						
Brownell Ave.	54							1032							
Buckingham St.		12							1682						230
Burnham St.		21							609	1216					
Burton St.	32							1012							
Bushnell Park							608	285		127					

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Bushnell St.	40	34						1118							
Cabot St.		15							1272						
Campfield Ave.	24	24									1680				
Canton St.	31	43					941	117				1072			
Capen St.	50							3615							
Capitol Ave.	119	136						2107	886	915	3419				
Capitol Ave. Ext.		5		561				247	1577						
Cedar St.		57						39	1206						
Cemetery St.							763	309							
Center St.	15							1010							
Central Row		24										430			
Chadwick Ave.	15							1296							
Chandler St.	6								390						
Chapel St.	26	8						718			40				
Chapin Place							321								
Charles St.										906	70				
Charlotte St.	25							1293							
Charter Oak Ave.	71	70						2626				2216			
Charter Oak Pl.	25							1207							
Chestnut St.		35									1125				
Church St.	58	10						1913	1026		40	2876			
Clark St.	40									1928					
Clay St.	9							370							
Clermont St.		32							933						
Clinton St.	3							595							

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Colchester St.								54							
Collins St.	53	9						2871				2493			
Colt's Meadow (W'field Av. to Hendricxsen Ave.								2557							
Columbia St.	6							348							
Commerce St.	8		37					392						1177	
Cone St.	18							1291							
Congress St.	28							1018							
Conn. Boulevard		36										270		1492	
Crane's Court							250								
Crescent St.	6	5							1344						
Crown St.	10							848							
Curcombe St.								461							
Cushman St.	6							748							
Dartmouth St.								449							
Dean St.	8							891							
Deerfield Ave.	33							1156		36					
Donald St.	12	6					28		471						
Douglas St.	10							651							
East St.	4							930							
Eaton St.	65							1218							
Edgewood St.	75	22						1784	2427						
Edgewood St. Ext		23							1040						
Edwards St.	24	17							2058						

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Elizabeth St.	6								1327						
Ellery St.		5							371						
Elliott Place	9							371							
Elliott St.	32	36						1007							
Ellsworth St.	8							882							
Elm St.	88	36						1830	57		1866				
Elmer St.	22							926							
Ely St.								565							
Essex St.		14							624						
Evergreen Ave.	23							1195							
Faience St.	7							641							
Fairfield Ave.	46	85						2737			2865				
Fairmount St.	15							1190							
Fales St.	8							545							
Farmington Ave.	233	6					22	40	841			30	*17846		
Fenwick St.		26						1060							
Fern St.	33							430		1707					
Ferry St.			5								548				
Flatbush Ave.				3656							600				
Florence St.	7							808							
Flower St.	73	33					39		1238						
Foot Guard Pl.	6	7						753	233		30				
Ford St.	31	59						10	536					495	
Forest St.	24	30						743				1540			
Francis Ave.	69							2022							

*Two Lines.

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4″ Feet	6″ Feet	8″ Feet	1½″ Feet	2″ Feet	3″ Feet	4″ Feet	6″ Feet	8″ Feet	10″ Feet	12″ Feet	16″ Feet	20″ Feet	24″ Feet	30″ Feet
Frankfort St.					1329										
Franklin Ave.	180	197						2128	3983		2837	4700			
Freeman St.	26	6					498	470	248						
Front St.	107	152	36				518	2105	140	3093		2190		282	
Garden St.	238	18					763	3016			1222	5170			
George St.	20	8						1179	300						
Gillett St.	21								14		163	1509			
Gilman St.	18							649							
Girard Ave.	45							2254	266						
Glendale Ave.	27			558				1109							
Gold St.							465	16							
Goodman Place	20							341							
Goodwin St.							371								
Governor St.	33							1702							
Grace St.	27							784							
Grand Ave.					1896										
Grand St.	34							1646							
Gray St.	12							518							
Green St.	34							985							
Greenfield St.	45	7						1961	313						
Greenwood St.		7						519							
Grove St.	28	59	20				168					1632			
Hamilton St.	50	18					10	3640							
Harbison Ave.	34	6						1081	479						
Harold St.	17						1725								

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4″ Feet	6″ Feet	8″ Feet	1½″ Feet	2″ Feet	3″ Feet	4″ Feet	6″ Feet	8″ Feet	10″ Feet	12″ Feet	16″ Feet	20″ Feet	24″ Feet	30″ Feet
Harper St.	8				849			17							
Harrison Place									412						
Harrison St.	14							1006							
Hartland St.									261						
Harvard St.	10							795							
Hawthorne St.	39	20						1735		990					
Haynes St.	5							300							
Hazel St.	30							1243							
Heath St.	39	6						1421							
Hendrickson Ave.	8							1660							
Hicks St.	6								561						
High St.		44	18											2305	
Hillside Ave.	6			445			275	1394							
Holcomb St.		11							574						
Homestead Ave.	10	34							3269	28					
Hopkins St.	62							1187							
Howard St.	20	20							383						
Hudson St.	42	20						1857							
Hungerford St.	60	47					26	1620	345						
Huntington St.	68							2079							
Huntley Place	22						451								
Hurlburt St.	25							260							
Huyshope Ave.	88	12					529	2599		564	875	16			
Imlay St.	33	7						1116							
Irving St.	39							880							

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
James St.	26							1042							
Jefferson St.	66							2903							
Jewell St.	14	42						1115						80	
John St.		36													1040
Judson St.								869							
Julius St.	14							1300	29						
Kennedy St.	21						700								
Kent St.	9	18							1074						
Kenyon St.	59	32						2112	1443						
Kibbe St.	6							1195							
Kilbourn St.			13								492	33			
King St.	9							852							
Kinsley St.			9								508				
Lafayette St.	30							1525							
Laurel St.	104	10						2670		1560					
Lawrence St.	77	31						2839	307						
Lee St.	9							130							
Lenox St.	6							1266							
Lewis St.	8							553							
Liberty St.	5							863							
Lincoln St.	51						403	1163							
Linden Place	9					426		333							
Linnmoore Ave.		10						790							
Loomis St.	8							582							
Lorraine St.	9	8						1058							

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Love Lane		20						1011							
McLean St.	25							490							
McKinley St.	25							495							
Madison Ave.	28							1698							
Madison St.	12							1193							
Magnolia St.	34							916							
Mahl Ave.	27							900							
Main St.	365	501						175	177	1444	226	7192	2588	1795	1050
Mannz Court	5						360								
Mansfield St.		5							683						
Maple Ave.	159	58							1535		4926	1254			
Market St.	7	87					884					1339			
Marlborough St.	31							707							
Marsh Court							480								
Marshall St.	13	7						865	450						
Martin St.	60	4						3024							
Masseek St.						283	16								
Mather St.	52						947	1811				2382			
May St.	9						512	382							
Meadow St.	7							329							
Mechanic St.			50								665				
Morgan St.		67												1295	
Morris St.		16							960						
Mortson St.	7							686							
Mountain St.	11							728							

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Mountford St.		40							1111						
Mulberry St.		9						475							
Myrtle St.									804			804			
Natalie St.								471							
Nelson St.								478							
New Britain Ave.	306							10862	16	1745					
Newfield Ave.	6			2039				113			3746				
Newington Ave.	49							2275							
New Park Ave.	166							5096							
Newton St.		17							1314						
Niles St.	29	30						2135							
Norman St.								55							
North St.	30							792							
No. Beacon St.	78							3181	29						
Norfolk St.	15							290	469						
Oak St.	49	17						1608	296						
Oakland Terrace	68							1320	1120						
Olds Place							313								
Olive St.	9						638								
Orange St.		20						20	1164						
Orchard St.							229								
Otis St.	6	18					920	938							
Owen St.								22							
Oxford St.	76							3256	999						
Park St.	135	54						7021	341	2791	61				12029

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Park Terrace	67	66					1136	36				2598			
Pavilion St	14						300	425							
Pawtucket St	9							633							
Pearl St	17	183						1758				1740			
Pequot St		17										520			
Plainfield St		8							580						
Pleasant St	32	43				387		1437				793			
Pliny St	34	17						1385							
Portland St	16							1007							
Potter St	13	20	20						1405					635	
Pratt St			21								640				
Preston St	32	36						28			3748				
Prospect Ave	379	76						3279	1439	4280	3366				
Prospect St		30						1076				162			
Putnam Heights	32							747							
Putnam St	86							2802							
Queen St	7	6						340	438						
Raymond St	31							698							
Raymond St. Ext.		7							394						
Regent St	8							508							
Retreat Ave	43	29						2477							
Riverside St							121	359							
Roosevelt St	33							1227							
Rose St	10							757							
Rowe Ave	31							1416							

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Russ St.	8							1867							
Russell St.		16							1099						
Salem St.								30							
Sanford St.							592	450							
Sargeant St.	10							3331							
Scarborough St.	61							3029							
School St.	16	6						1023							
Sequassen St.	45	77					193	574	19	391					
Seymour St.	48							691	1354						
Seyms St.	21						1078								
Sheldon St.	26	80						2960	1211						
Sherman St.	8							880							
Shultas Place	34	38						1036	789						
Sigourney St.	118	23						3579	995	1582					
Sisson Ave.	71							3558							
Smith St.	107							3480			15				
South St.	32	11							1208		550				
South Ann St.	5							361							
Southbury St.	11							300							
So. Hudson St.	22							806							
So. Prospect St.								777							
So. Woodbine St.	5						225								
Spring St.	10	12							552		34	1160			
Spruce St.	27							690							
Squire St.		18							640						

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Standish St.	44	12						1600	730						
State St.	82	225					98	10	254	1097	7	888			
Stedman St.		6						530							
Sterling St.									211						
Suffield St.							599	571							
Summit St.	11	7						1492	863	1820					
Sumner St.	28	10						1252							
Talcott St.		13	24								1422				
Taylor St.	24							687							
Temple St.		20	24								1025				
Tower Ave.	8										1400				
Townley St.	6						576								
Tremont St.	99							2221							
Trinity St.	17								1453						
Trumbull St.	50	139					348	437	30	1641	305				
Union Place		9	18								706				
Union St.		21								702					
Van Block Ave.						1044									
Van Dyke Ave.		15						70							
Vernon St.	72	12						2929							
Victoria Road		89								552	920				
Village St.	8						888	192				1553			
Vine St.	154	76									6526				
Vineland Ter.		7							488						
Vredendale Ave.								580							

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Wadsworth St....	29	11	....	.....	.....	.....	1111	51	.....	.....	.....	.....	.....	.....	.....
Walnut St.....	41	24	....	.....	.....	.....	15	1375	.....	.....	1173	.....	.....	.....	.....
Ward Place.....	15	7	....	.....	.....	.....	.....	.....	600	.....	.....	.....	.....	.....	.....
Ward St.....	70	.....	....	492	.....	.....	.....	3138	.....	.....	.....	.....	.....	.....	.....
Warner St.....	18	.....	....	.....	.....	.....	1014	.....	.....	.....	.....	.....	.....	.....	.....
Warren St.....	19	.....	....	.....	.....	.....	.....	579	.....	.....	.....	.....	.....	.....	.....
Warrenton Ave...	75	.....	....	.....	.....	.....	.....	2153	258	.....	.....	.....	.....	.....	.....
Washington St...	103	.....	....	.....	.....	.....	.....	908	4279	457	.....	.....	.....	.....	.....
Water St.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	515	330	.....	.....
Waverly St.....	7	.....	....	.....	.....	.....	.....	548	.....	.....	.....	.....	.....	.....	.....
Wawarme Ave...	32	.....	....	.....	.....	.....	360	1160	.....	.....	.....	.....	.....	.....	.....
Webster St.....	41	.....	....	.....	.....	.....	.....	1506	.....	.....	.....	.....	.....	.....	.....
Weehassat St....	28	.....	....	.....	.....	.....	.....	1132	.....	.....	.....	.....	.....	.....	.....
Wellington Ave...	10	.....	....	387	.....	.....	.....	1081	.....	.....	.....	.....	.....	.....	.....
Wells St.....	20	.....	....	.....	.....	.....	.....	1011	.....	.....	.....	.....	.....	.....	.....
West St.....	.....	.....	....	.....	.....	.....	583	378	.....	.....	.....	.....	.....	.....	.....
Westland St.	9	21	....	.....	.....	.....	.....	4191	36	.....	.....	.....	.....	.....	.....
Wethersfield Ave.	212	171	....	.....	.....	.....	6	9017	170	6757	1844	1555	.....	.....	.....
White St.	.....	7	....	.....	.....	.....	.....	568	1845	.....	1887	.....	.....	.....	.....
Whitman Court..	.....	.....	....	.....	.....	.....	373	.....	.....	.....	.....	.....	.....	.....	.....
Whitmore St.....	40	.....	....	.....	.....	.....	.....	1450	.....	.....	.....	.....	.....	.....	.....
Whitney St.....	83	56	....	.....	.....	.....	.....	1581	1782	.....	.....	.....	.....	.....	.....
Willard St.....	34	.....	....	.....	.....	.....	.....	1029	.....	.....	.....	.....	.....	.....	.....
Williams St.....	10	4	....	.....	.....	.....	.....	1181	.....	.....	.....	.....	.....	.....	.....
Willow St.....	7	10	....	.....	.....	.....	.....	1090	.....	.....	.....	.....	.....	.....	.....

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TABLE XI—continued. DISTRIBUTION SYSTEM. Main Pipe in Commission.

Name of Street	Hydrant Br'hs			Size and Length of Pipe											
	4" Feet	6" Feet	8" Feet	1½" Feet	2" Feet	3" Feet	4" Feet	6" Feet	8" Feet	10" Feet	12" Feet	16" Feet	20" Feet	24" Feet	30" Feet
Wilson St.	31	6	....	.....	.....	.....	.....	1817	.....	.....	.....	.....	.....	.....	.....
Winchester St.	.....	.....	....	.....	.....	.....	.....	.....	52	.....	.....	.....	.....	.....	.....
Windsor Ave.	276	20	....	.....	.....	.....	.....	7333	4294	.....	3904	.....	.....	.....	.....
Windsor St.	156	109	....	.....	.....	.....	304	3060	2153	2966	1962	.....	.....	.....	.....
Winship St.	32	....	....	.....	.....	.....	.....	915	.....	.....	.....	.....	.....	.....	.....
Winter St.	8	....	....	.....	.....	.....	.....	579	.....	.....	.....	.....	.....	.....	.....
Winthrop St.	19	....	....	.....	.....	.....	.....	598	.....	.....	.....	.....	.....	.....	.....
Wolcott St.	16	....	....	.....	.....	.....	625	46	.....	.....	.....	.....	.....	.....	.....
Woodbine St.	17	10	....	.....	.....	.....	.....	594	.....	515	.....	.....	.....	.....	.....
Woodbridge St.	9	25	....	.....	.....	.....	.....	.....	.....	855	.....	.....	.....	.....	.....
Woodland St.	226	67	....	.....	.....	.....	.....	5643	.....	.....	.....	.....	.....	.....	.....
Wooster St.	28	23	....	.....	.....	.....	1077	816	.....	.....	.....	.....	.....	.....	.....
Wyllys St.	37	....	....	.....	.....	.....	.....	1169	1531	.....	.....	.....	.....	.....	.....
York St.	7	....	....	.....	.....	.....	.....	609	.....	.....	.....	.....	.....	.....	.....
Zion St.	86	....	....	.....	.....	.....	.....	5188	790	.....	.....	.....	.....	.....	.....
Totals	11764	6094	381	8138	4074	2140	28662	373680	91638	46200	63653	73458	24285	10711	14349

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SUCTION MAIN	4″ Feet	6″ Feet	24″ Feet
Engine house, extending into river	.....	.....	140
WEST HARTFORD			
Vitrified pipe line from Reservoir No. 6 to Reservoir No. 5	.....	.....	16,700
Pipe line from Reservoir No. 5 to Reservoir No. 1	.....	3,174	.....
Pipe line from Reservoir No. 4 to Long's Pond	.....	.....	9,400
Hydrant branch, Reservoir No. 1	48	.....	.....
Total	48	3,174	26,240

BLOOMFIELD DISTRIBUTION SYSTEM.

Street	Size and Length		
	3″	4″	6″
Blue Hills Avenue	.....	298	2,723
Elizabeth Avenue	.....	526	.....
Hubbard Street	.....	1,365	.....
Merriam Avenue	100	335	.....
Totals	100	2,524	2,723

A total of 1 mile and 67 feet.

Note—These pipes all belong to the City of Hartford.

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WETHERSFIELD FIRE DISTRICT.

Street	Size and Length of Pipe.				
	1½"	2"	4"	6"	8"
*Berlin Turnpike				2,060	8,330
Broad St.			4,974	320	
Chemical Lane	1,120				
Church Street			625	1,860	
Garden Street		455	1,540	710	
Hathaway Street			960	140	
†Hartford Avenue					6,948
Kelly Avenue			685		
Main Street			3,100	2,740	555
Marsh Street		719		1,470	
Middletown Avenue			1,755		
Notts Lane				1,630	
Spring Street			2,634	96	
‡State Street				1,360	665
Welles Road			625		
Hydrant Branches			186	174	
Totals	1,120	1,174	17,084	12,560	16,498

A total of 9 miles and 916 feet.

**Owned by the State of Connecticut.*

†4,903 *feet owned by the City of Hartford.*

‡8-*inch pipe owned by the City of Hartford.*

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WEST HARTFORD DISTRIBUTION SYSTEM.

Location	Size and Length of Pipe						
	2"	3"	4"	6"	8"	20"	30"
Albany Ave.			2,558				
Arnoldale Road		1,013		465			
Asylum Ave.				3,139			
Barker Ave.				1,124			
Beacon St.				267			
Boulanger St.			536				
Boulevard				2,208	132		15,400
Caya Ave.			631				
Concord St.				1,860			
Darcy St.			686				
East St.				2,788			
Fairview Place	608			1,050			
Fairview St.			715				
Farmington Ave.						34,126	
Fern St.				1,327			
Griswold Ave.			180				
Grove St.		500					
Hamilton St.				857			
Highland St.			1,626	24			
Le May St.			660				
Levesque St.			917				
Mountain Road			990				
New Britain Ave.				2,468	3,041		
Newington Ave.				4,133			
New Park Ave.				2,430			

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WEST HARTFORD DISTRIBUTION SYSTEM—continued.

Location	Size and Length of Pipe						
	2″	3″	4″	6″	8″	20″	30″
North Main St.				1,540	1,078		
Oakwood Ave.				2,100			
Outlook Ave.				840			
Park St.				2,393			1,900
Pleasant St.			1,403				
Prince St.			867				
Quaker Lane			590	3,273			
School St.		1,200	1,038				
South Main St.				6,973			
Steele Street				4,053			
Sycamore Road				1,660			
Vanderbilt Road				694			
Walbridge Terrace			606				
Walter Ave.				304			
Warren St.				590			
Westland Ave.			1,010				
Westphal St.			782				
Whiting St.				1,995			
Wilson St.				420			
Totals	608′	2,713′	15,795′	50,975′	4,251′	34,126′	17,300′

Note—This table is only approximately correct.

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SUMMARY OF MAIN PIPE IN SERVICE, MARCH 1, 1913.

Location	Size and Length											
	1½"	2"	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
City of Hartford, Distribution System	8,138	4,074	2,140	28,662	373,680	91,638	46,200	63,653	73,458	*58,411	10,711	*31,649
Reservoir Pipe System	.....	.....	.....	48	3,174	.....	.....	.....	.....	.....	†26,240	.....
Suction Main	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	140	.....
West Hartford, Distribution System	.....	608	2,713	15,795	50,975	4,251	.....	.....	.....	.....	.....	.....
Wethersfield Fire District System	1,120	1,174	.....	17,084	12,560	16,498	.....	.....	.....	.....	.....	.....
Bloomfield Distribution System	.....	.....	100	2,524	2,723	.....	.....	.....	.....	.....	.....	.....
Total	9,258	5,856	4,953	64,113	443,112	112,387	46,200	63,653	73,458	58,411	37,091	31,649

Making a total of 179 miles and 5,021 feet.

*Includes supply mains.

†Includes 16,700 feet of Vitrified pipe.

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TABLE XII.

LOCATION OF PUBLIC FIRE HYDRANTS.

Corrected to March 1, 1913.

Adams St. northwest corner of Albany Ave.	Steamer
Adams St. between Albany Ave. and Norfolk St.	Single
Adelaide St. opposite No. 17	Single
Adelaide St. opposite No. 34	Four way
Adelaide St. opposite No. 56	Single
Adelaide St. opposite No. 99	Single
Adelaide St. opposite No. 115	Four way
Adelaide St. opposite No. 137	Single
Adelaide St. opposite No. 162	Four way
Adelaide St. opposite No. 172	Single
Adelaide St. opposite No. 195	Four way
Affleck St. northwest corner of Ward St	Single
Affleck St. opposite No. 15	Four way
Affleck St. opposite No. 22	Four way
Affleck St. southwest corner of Park St.	Four way
Albany Ave. southeast corner of Lumber St	Steamer
Albany Ave. opposite No. 14	Steamer
Albany Ave. opposite No. 67	Steamer
Albany Ave. opposite No. 107	Steamer
Albany Ave. southeast corner of Chestnut St.	Steamer
Albany Ave. opposite No. 250	Double
Albany Ave. opposite No. 352	Steamer
Albany Ave. southwest corner of Marlborough St.	Double
Albany Ave. opposite No. 435	Double
Albany Ave. southeast corner of Burton St	Double
Albany Ave. southeast corner of Sigourney St	Double
Albany Ave. opposite Lenox St	Double
Albany Ave. opposite Deerfield Ave	Steamer
Albany Ave. southeast corner of Woodland St	Steamer
Albany Ave. southwest corner of Harrison St	Steamer
Albany Ave. opposite Blue Hills Ave	Single
Albany Ave. northeast corner of Baltimore St	Single
Albany Ave. northwest corner of Bloomfield Ave	Single
Alden St. northwest corner of Wethersfield Ave	Single
Alden St. opposite No. 11	Double
Allen Place opposite No. 39	Single
Allen Place opposite No. 135	Double
Allen Place opposite J. P. Harbison's Barn	Single
Allyn St. southwest corner of Trumbull St	Steamer
Allyn St. opposite No. 26	Steamer
Allyn St. opposite No. 52	Steamer
Allyn St. northeast corner of Ann St	Steamer
Allyn St. opposite No. 109	Steamer
Allyn St. opposite No. 145	Steamer
Allyn St. northwest corner of High St.	Steamer
American Row south end of street	Steamer

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Amity St. opposite No. 55	Single
Amity St. southwest corner of Capitol Ave. Ext	Single
Ann St. northeast corner of Asylum St	Steamer
Ann St. opposite No. 39	Steamer
Ann St. southwest corner of Allyn St	Steamer
Ann St. southeast corner of Church St	Steamer
Ann St. northwest corner of Church St	Steamer
Ann St. opposite No. 80	Steamer
Ann St. opposite No. 107	Steamer
Ann St. southeast corner of Main St	Steamer
Annawan St. opposite No. 21	Four way
Annawan St. opposite No. 44	Double
Annawan St. northwest corner of Dean St	Four way
Arbor St. southwest corner of Boulevard	Four way
Arbor St. 250 feet south of Boulevard	Four way
Arbor St. 200 feet east of Orange St	Four way
Arch St. opposite No. 23	Steamer
Arch St. opposite No. 54	Steamer
Arch St. opposite No. 80	Steamer
Arthur Place south end of street	Single
Ashley St. northwest corner of Garden St	Single
Ashley St. opposite No. 40	Single
Ashley St. northeast corner of Sigourney St	Single
Ashley St. west of May St	Double
Ashley St. northeast corner of Atwood St	Single
Ashley St. opposite No. 241	Single
Asylum St. opposite No. 27	Double
Asylum St. opposite No. 44	Steamer
Asylum St. opposite No. 64	Double
Asylum St. opposite No. 73	Steamer
Asylum St. opposite No. 90	Double
Asylum St. opposite No. 110	Steamer
Asylum St. southeast corner of Trumbull St	Steamer
Asylum St. opposite No. 162	Double
Asylum St. opposite No. 192	Steamer
Asylum St. southeast corner of Haynes St	Single
Asylum St. opposite Haynes St	Steamer
Asylum St. opposite No. 232	Steamer
Asylum St. opposite No. 259	Double
Asylum St. northwest corner of Ann St	Steamer
Asylum St. opposite No. 296	Double
Asylum St. opposite No. 297	Double
Asylum St. opposite No. 329	Double
Asylum St. opposite No. 349	Double
Asylum St. southwest corner of Ford St	Steamer
Asylum St. southwest corner of Ford St	Double
Asylum St. opposite No. 436	Steamer
Asylum St. opposite Union Place	Steamer
Asylum St. west of Hopkins St	Steamer
Asylum St. southwest corner of Farmington Ave	Double
Asylum St. opposite No. 675	Double
Asylum St. opposite American Asylum	Single
Asylum St. opposite Flower St	Steamer
Asylum St. opposite No. 747	Steamer
Asylum St. opposite No. 990	Double
Asylum St. northwest corner of Woodland St	Single

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Asylum St. at Park River bridge.....Single
Asylum St. east of No. 1205.....Single
Asylum St. opposite No. 1205.....Single
Asylum St. opposite No. 1300.....Single
Atheneum St. southwest corner of Prospect St.....Steamer
Atlantic St. opposite No. 10.....Single
Atlantic St. west end of street.....Single
Atwood St. opposite No. 19.....Single
Atwood St. opposite No. 57.....Single
Avon St. northeast corner of Windsor Ave.....Single
Avon St. opposite No. 12.....Steamer
Avon St. opposite No. 32.....Single
Avon St. northwest corner of Windsor St.....Double
Avon St. opposite No. 70.....Single
Babcock St. opposite No. 39.....Single
Babcock St. southeast corner of Russ St.....Single
Babcock St. opposite No. 125.....Single
Babcock St. opposite No. 164.....Single
Babcock St. northeast corner of Park St.....Steamer
Baltimore St. opposite No. 34.....Single
Barbour St. northwest corner of Capen St.....Single
Barbour St. opposite No. 57.....Single
Barbour St. southwest corner of Judson St.....Single
Barbour St. northeast corner of Westland St.....Single
Barbour St. northwest corner of Risley St.....Single
Barbour St. northwest corner of Charlotte St.....Single
Barbour St. opposite No. 217.....Single
Barbour St. opposite Frankfort St.....Single
Barbour St. southwest corner of Tower Ave.....Single
Barker St. opposite Stedman St.....Steamer
Barker St. 260 feet west of Stedman St.....Four way
Barker St. 520 ft. west of Stedman St.....Four way
Barker St. 780 ft. west of Stedman St.....Four way
Barker St. north side, 320 ft. east of Campfield Ave.....Single
Barker St. northeast corner of Campfield Ave.....Double
Barnard St. opposite No. 34.....Double
Bartholomew Ave. at Rubber Works.....Single
Bartholomew Ave. south of Rubber Works.....Steamer
Bartholomew Ave. northeast corner of Hamilton St.....Single
Bartholomew Ave. southwest corner of Faience St.....Single
Bartholomew Ave. opposite Olive St.....Steamer
Beach St. southwest corner of Farmington Ave.....Single
Beach St. opposite No. 44.....Single
Beacon St. opposite No. 22.....Single
Beacon St. opposite No. 66.....Single
Beacon St. northwest corner of Boulevard.....Single
Beacon St. opposite No. 189.....Single
Beacon St. southwest corner of Farmington Ave.....Steamer
Belden St. opposite No. 29.....Single
Belden St. northeast corner of East St.....Steamer
Bellevue St. opposite No. 40.....Single
Bellevue St. southwest corner of Pavilion St.....Single
Bellevue St. opposite No. 118.....Steamer
Bellevue St. northeast corner of Suffield St.....Single
Bellevue St. northeast corner of Warren St.....Single
Bellevue St. southeast corner of Sanford St.....Single

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Belmont St. between Wellington and Bartholomew Aves	Double
Benton St. northwest corner of Wethersfield Ave	Single
Benton St. opposite No. 28	Single
Benton St. opposite No. 54	Single
Benton St. opposite Coombs' Greenhouses	Single
Benton St. opposite No. 166	Single
Benton St. north side, east of Webster St	Single
Bliss St. opposite No. 19	Single
Bliss St. opposite No. 30	Four way
Bliss St. opposite No. 54	Single
Blue Hills Ave. opposite Engine House	Steamer
Blue Hills Ave. opposite Greenfield St	Double
Blue Hills Ave. opposite No. 81	Steamer
Blue Hills Ave. north of Norfolk St	Double
Blue Hills Ave. opposite No. 175	Single
Blue Hills Ave. south of No. 249	Single
Blue Hills Ave. opposite Plainfield St	Steamer
Blue Hills Ave. opposite No. 301	Double
Blue Hills Ave. north of No. 350	Double
Blue Hills Ave. opposite Holcomb St	Steamer
Blue Hills Ave. opposite Holcomb St	Steamer
Blue Hills Ave. opposite No. 421	Single
Blue Hills Ave. opposite No. 479	Single
Blue Hills Ave. northwest corner of Tower Ave	Single
Blue Hills Ave. opposite No. 579	Single
Blue Hills Ave. opposite No. 618	Single
Blue Hills Ave. opposite schoolhouse	Single
Blue Hills Ave. south of City Line	Single
Bodwell St. opposite No. 17	Four way
Bodwell St. opposite No. 36	Single
Bodwell St. opposite No. 64	Four way
Bond St. opposite No. 4	Four way
Bond St. opposite No. 48	Single
Bond St. northeast corner of Franklin Ave	Single
Bond St. opposite No. 103	Four way
Bond St. opposite No. 120	Single
Bond St. opposite No. 146	Four way
Bond St. opposite No. 172	Single
Bond St. northeast corner of Maple Ave	Double
Bonner St. east of No. 26	Single
Bonner St. opposite No. 58	Single
Bonner St. northeast corner of Hillside Ave	Single
Boulevard opposite Orange St	Steamer
Boulevard opposite Hazel St	Double
Boulevard northeast of Sisson Ave	Double
Boulevard northwest corner of Regent St	Single
Brady Place	Double
Broad St. southeast corner of Mountford St	Single
Broad St. opposite No. 435	Single
Broad St. southwest corner of New Britain Ave	Double
Broad St. south of School St	Single
Broad St. north of School St	Single
Broad St. opposite No. 736	Single
Broad St. southwest corner of Vernon St	Double
Broad St. northeast corner of Allen Place	Double
Broad St. southeast corner of Jefferson St	Steamer

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Broad St. northwest corner of Ward St.....Single
Broad St. southeast corner of Park St.....Steamer
Broad St. southwest corner of Russ St.....Double
Broad St. opposite No. 1316.....Double
Broad St. opposite No. 1334.....Double
Broad St. southwest corner of Capitol Ave .....Single
Broad St. southwest corner of Howard St.....Double
Broad St. opposite Howard St.....Steamer
Broad St. opposite No. 1506.....Steamer
Broad St. southwest corner of Farmington Ave.....Single
Broad St. southeast corner of Farmington Ave.....Steamer
Broadview Terrace.....Double
Brook St. opposite No. 12.....Single
Brook St. southwest corner of Albany Ave.....Single
Brook St. opposite Fairmount St.....Single
Brown St. opposite Nos. 6-8.....Double
Brown St. opposite No. 30.....Four way
Brown St. opposite No. 55.....Double
Brown St. opposite Winship St.....Double
Brown St. northeast corner of George St.....Double
Brown St. opposite No. 185.....Four way
Brownell Ave. southwest corner of Washington St.....Double
Brownell Ave. opposite Nos. 7-9.....Double
Brownell Ave. southeast corner of Broad St.....Double
Buckingham St. southwest corner of Main St.....Steamer
Burnham St. 700 ft. west of Blue Hills Ave.....Steamer
Burnham St. opposite Hartland St.....Steamer
Burnham St. opposite Palm St.....Steamer
Burton St. south of No. 39.....Double
Burton St. opposite No. 58.....Single
Bushnell St. opposite No. 15.....Single
Bushnell St. opposite No. 30.....Four way
Bushnell St. opposite No. 54.....Four way
Bushnell St. opposite No. 65.....Single
Bushnell St. opposite No. 92.....Four way
Bushnell St. opposite No. 110.....Four way
Bushnell St. near Campfield Ave .....Double
Cabot St. 300 ft. south of Albany Ave.....Four way
Cabot St. 500 ft. north of Homestead Ave.....Four way
Cabot St. 250 ft. north of Homestead Ave.....Four way
Campfield Ave. south of Barker.....Four way
Campfield Ave. southeast corner of Adelaide St.....Double
Campfield Ave. opposite Bushnell St.....Double
Campfield Ave. opposite No. 125-7.....Four way
Canton St. northeast corner of Windsor Ave.....Single
Canton St. opposite Wooster St.....Steamer
Canton St. opposite Bellevue St.....Single
Canton St. southwest corner of Windsor St.....Steamer
Capen St. opposite No. 36.....Single
Capen St. southeast corner of Garden St.....Single
Capen St. opposite No. 256.....Single
Capen St. opposite No. 308.....Single
Capen St. west of Vine St.....Four way
Capitol Ave. southeast corner of Whitman Court.....Single
Capitol Ave. northwest corner of West St.....Double
Capitol Ave. northwest corner of Washington St.....Double

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Capitol Ave. opposite No. 279	Double
Capitol Ave. north side, west of Broad St	Steamer
Capitol Ave. northwest corner of Lawrence St	Steamer
Capitol Ave. opposite No. 397	Steamer
Capitol Ave. opposite No. 431	Steamer
Capitol Ave. opposite Putnam St	Steamer
Capitol Ave. east of Columbia St	Steamer
Capitol Ave. opposite Columbia St	Double
Capitol Ave. north side, east of Park Terrace	Steamer
Capitol Ave. opposite Park Terrace	Steamer
Capitol Ave. opposite Sigourney St	Steamer
Capitol Ave. north side, west of Sigourney St	Double
Capitol Ave. opposite Woodbine St	Single
Capitol Ave. north side, west of Woodbine St	Steamer
Capitol Ave. opposite No. 613	Single
Capitol Ave. extension opposite Newton St	Four way
Cedar St. northeast corner of Park St	Double
Cedar St. opposite No. 26	Four way
Cedar St. opposite No. 58	Four way
Cedar St. opposite No. 86	Four way
Cedar St. southeast corner of Buckingham St	Single
Center St. northeast corner of Fairmount St	Single
Central Row opposite No. 8	Steamer
Central Row southwest corner of Prospect St	Steamer
Chadwick Ave. west side, north of No. 27	Single
Chadwick Ave. north of No. 82	Double
Chapel St. northwest corner of Trumbull St	Double
Chapel St. opposite No. 25	Double
Chapel St. northeast corner of Ann St	Steamer
Chapin Place, end of street	Single
Charlotte St. opposite No. 14	Single
Charlotte St. northeast corner of Waverly St	Single
Charter Oak Ave. southeast corner of Main St	Steamer
Charter Oak Ave. southwest corner of Charter Oak Place	Steamer
Charter Oak Ave. northwest corner of South Prospect St	Single
Charter Oak Ave. southwest corner of Governor St	Steamer
Charter Oak Ave. northeast corner of Woodbridge St	Steamer
Charter Oak Ave. opposite Union St	Steamer
Charter Oak Ave. southeast corner of Van Block Ave	Single
Charter Oak Ave. southwest corner of Huyshope Ave	Double
Charter Oak Ave. southeast corner of Vredendale Ave	Single
Charter Oak Place opposite No. 23	Double
Charter Oak Place opposite No. 30	Double
Chestnut St. opposite No. 28	Steamer
Chestnut St. opposite No. 53	Steamer
Chestnut St. opposite No. 78	Steamer
Church St. southwest corner of Main St	Single
Church St. opposite No. 17	Double
Church St. opposite No. 30	Double
Church St. opposite No. 62	Double
Church St. opposite No. 94	Single
Church St. southwest corner of High St	Double
Church St. southwest corner of Spruce St	Steamer
Clark St. northwest corner of Capen St	Double
Clark St. opposite No. 80	Double
Clark St. southwest corner of Judson St	Double

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Clark St. southwest corner of Westland St.....Double
Clay St. north end of street.....Single
Clermont St. opposite No. 8.....Steamer
Clermont St. north end of Main.....Steamer
Clinton St. northwest corner of Capitol Ave.....Single
Collins St. northwest corner of Myrtle St.....Single
Collins St. opposite No. 48.....Steamer
Collins St. southeast corner of Garden St.....Double
Collins St. northwest corner of Atwood St.....Single
Collins St. opposite St. Thomas Seminary.....Double
Collins St. northeast corner of Woodland St.....Double
Columbia St. south end of street.....Single
Commerce St. southeast corner of Potter St.....Single
Commerce St. opposite No. 40.....Steamer
Commerce St. opposite No. 65.....Steamer
Commerce St. opposite No. 69.....Steamer
Commerce St. opposite No. 83.....Steamer
Commerce St. northwest corner Grove.....Steamer
Commerce St. opposite No. 113.....Steamer
Cone St. northeast corner of Oxford St.....Double
Cone St. northeast corner of Prospect Ave.....Single
Congress St. opposite No. 50.....Double
Congress St. southwest corner of Maple Ave.....Double
Connecticut Boulevard southwest corner of Ferry St.....Steamer
Connecticut Boulevard southwest corner of Kilbourn St.....Steamer
Connecticut Boulevard southwest corner of Talcott St.....Steamer
Connecticut Boulevard southwest corner of Morgan St.....Steamer
Crescent St. west of Broad St.....Double
Crescent St. at Angle.....Steamer
Crown St. northwest corner of Ellsworth St.....Single
Curcomb St. west end of street.....Single
Cushman St. north side, west of Sigourney St.....Single
Dean St. opposite No. 29.....Single
Deerfield Ave. northeast corner of Albany Ave.....Single
Deerfield Ave. opposite No. 33.....Single
Deerfield Ave. opposite No. 70.....Double
Donald St. northwest corner of Kennedy St.....Steamer
Donald St. opposite No. 6.....Single
Donald St. southwest corner of Russell St.....Single
Douglas St. opposite No. 16.....Double
East St. northeast corner of Florence St.....Single
Eaton St. northwest corner of Wethersfield Ave.....Single
Eaton St. opposite Nos. 27-29.....Single
Eaton St. opposite No. 59.....Single
Eaton St. southeast corner of Franklin Ave.....Single
Edgewood St. opposite No. 22.....Single
Edgewood St. west side, south of Albany Ave.....Single
Edgewood St. northwest corner of Albany Ave.....Single
Edgewood St. opposite No. 123-5.....Single
Edgewood St. 600 ft. north of Albany Ave.....Single
Edgewood St. 385 ft. south of Greenfield St.....Single
Edgewood St. opposite No. 264.....Single
Edgewood St. southeast corner of Capen St.....Double
Edgewood St. ext. east of Vine St.....Steamer
Edgewood St. ext. 550 ft. west of Garden St.....Four way
Edgewood St. ext. 300 ft. west of Garden St.....Four way

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Edwards St. north end of R. R. Bridge.....Single
Edwards St. southeast corner of Walnut St.....Steamer
Edwards St. opposite No. 84.....Single
Edwards St. opposite No. 107.....Steamer
Ellery St. south end of street.....Steamer
Elizabeth St. northwest corner of Girard Ave.....Steamer
Elliott Place opposite No. 6.....Single
Elliott St. opposite No. 17-19.....Double
Elliott St. opposite No. 48.....Double
Ellsworth St. opposite No. 55.....Single
Elm St. No. 16.....Double
Elm St. southeast corner of Linden Place.....Single
Elm St. opposite Elm Place.....Steamer
Elm St. southwest corner of West St.....Double
Elm St. opposite No. 78.....Single
Elm St. opposite Clinton St.....Double
Elm St. northeast corner of Trinity St.....Single
Elmer St. northwest corner of Windsor Ave.....Single
Elmer St. northwest corner of Clay St.....Single
Elmer St. northeast corner of Clark St.....Single
Enfield St. southwest corner of Westland St.....Single
Essex St. west of Maple Ave.....Four way
Essex St. east of Retreat Ave.....Four way
Evergreen Ave. opposite No. 35.....Double
Evergreen Ave. opposite No. 81.....Double
Faience St. north side, west of Bartholomew Ave.....Double
Faience St. south end of Main.....Double
Fairfield Ave. opposite Engine House.....Double
Fairfield Ave. 650 ft. south of New Britain Ave.....Double
Fairfield Ave. 300 ft. north of Roxbury St.....Double
Fairfield Ave. opposite No. 160.....Single
Fairfield Ave. southeast corner of White St.....Double
Fairfield Ave. northeast corner of Linnmoore Ave.....Single
Fairfield Ave. northeast corner of Freeman St.....Single
Fairfield Ave. opposite No. 342.....Single
Fairfield Ave. opposite No. 400.....Steamer
Fairfield Ave. intersection of Maple Ave.....Double
Fales St. opposite No. 10.....Single
Farmington Ave. opposite No. 43.....Steamer
Farmington Ave. opposite No. 119.....Double
Farmington Ave. opposite Cathedral.....Single
Farmington Ave. south side opposite Cathedral.....Steamer
Farmington Ave. southeast corner of Forest St.....Double
Farmington Ave. north side, west of Gillett St.....Double
Farmington Ave. northwest corner of Lorraine St.....Double
Farmington Ave. opposite Evergreen Ave.....Single
Fenwick St. south of South St.....Four way
Fern St. northwest corner of Oxford St.....Double
Fern St. southwest corner of No. Beacon St.....Double
Ferry St. opposite No. 34.....Steamer
Florence St. opposite No. 12.....Single
Flower St. southeast corner of Howard St.....Steamer
Flower St. west side south of R. R. tracks.....Double
Flower northwest corner of Queen St.....Single
Flower St. opposite No. 75.....Steamer
Flower St. southwest corner of Farmington Ave.....Double

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Foot Guard Place northwest corner of High St.	Steamer
Foot Guard Place at angle in street	Single
Ford St. opposite No. 24	Steamer
Ford St. west side	Steamer
Ford St. opposite No. 60	Double
Forest St. opposite No. 12	Single
Forest St. opposite No. 45	Single
Forest St. opposite No. 66	Single
Francis Ave. opposite No. 3	Single
Francis Ave. opposite No. 22	Single
Francis Ave. northeast corner of Hamilton St	Single
Francis Ave. opposite No. 69	Single
Francis Ave. southwest corner of Park St.	Double
Franklin Ave. junction of Maple Ave.	Steamer
Franklin Ave. opposite No. 30	Four way
Franklin Ave. opposite No. 54	Four way
Franklin Ave. opposite No. 83	Single
Franklin Ave. opposite No. 98	Four way
Franklin Ave. opposite No. 140	Four way
Franklin Ave. northwest corner of Benton St.	Single
Franklin Ave. opposite No. 172	Four way
Franklin Ave. opposite Elliott St.	Single
Franklin Ave. opposite No. 224	Four way
Franklin Ave. northwest corner of Barker St	Four way
Franklin Ave. opposite No. 275	Single
Franklin Ave. northeast corner of Adelaide St.	Four way
Franklin Ave. opposite No. 317	Single
Franklin Ave. opposite No. 336	Four way
Franklin Ave. southwest corner of Otis St.	Double
Franklin Ave. opposite No. 399	Double
Franklin Ave. opposite No. 424	Four way
Franklin Ave. northwest corner of Brown St.	Double
Franklin Ave. northwest corner of South St.	Single
Franklin Ave. southeast corner of Roosevelt St.	Double
Franklin Ave. northwest corner of Hanmer St.	Double
Freeman St. opposite No. 63	Single
Front St. northwest corner of Sheldon St.	Steamer
Front St. opposite Arch St.	Single
Front St. opposite No. 73	Four way
Front St. opposite No. 115	Four way
Front St. northeast corner of Potter St.	Steamer
Front St. opposite No. 167	Single
Front St. opposite No. 180	Double
Front St. opposite No. 207	Steamer
Front St. southwest corner of Grove St.	Double
Front St. northwest corner of Grove St.	Double
Front St. opposite No. 285	Steamer
Front St. northwest corner of State St.	Steamer
Front St. opposite No. 409	Double
Front St. opposite No. 470	Double
Front St. northwest corner of Talcott St.	Double
Front St. southwest corner of Morgan St.	Steamer
Front St. southwest corner of Pequot St.	Single
Front St. northwest corner of Avon St.	Single
Front St. south of R. R. tracks	Single
Garden St. northwest corner of Asylum St.	Steamer

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Garden St. opposite No. 47	Single
Garden St. opposite No. 65	Steamer
Garden St. northeast corner of Myrtle St.	Single
Garden St. opposite No. 321	Single
Garden St. northeast corner of Albany Ave.	Double
Garden St. opposite No. 366	Single
Garden St. southeast corner of Mather St.	Double
Garden St. northwest corner of Mather St.	Double
Garden St. northeast corner of Pliny St.	Single
Garden St. opposite Cemetery	Single
Garden St. east side, north of Cemetery	Single
Garden St. opposite No. 540	Single
Garden St. northwest corner of Capen St.	Double
Garden St. opposite No. 621	Single
Garden St. opposite No. 674	Double
Garden St. southwest corner of Westland St.	Single
George St. northwest corner of South St.	Four way
George St. opposite Douglas St.	Single
George St. southwest corner of Preston St.	Single
Gillett St. opposite No. 29	Double
Gillett St. opposite No. 108	Single
Gillett St. southwest corner of Asylum St.	Single
Gilman St. northwest corner of Winship St.	Single
Gilman St. northeast corner of George St.	Single
Girard Ave. northwest corner of Farmington Ave.	Double
Girard Ave. opposite No. 15	Single
Girard Ave. opposite No. 37	Single
Girard Ave. opposite Fern St.	Single
Girard St. opposite No. 63	Single
Glendale Ave. oppsote No. 41	Single
Glendale Ave. northwest of Hillside Ave	Single
Goodman Place east end of street	Double
Governor St. opposite No. 30	Single
Governor St. opposite No. 69	Single
Governor northeast corner of Charter Oak Ave.	Single
Grace St. northwest corner of New Park Ave.	Single
Grace St. southeast corner of Green wood St.	Single
Grand St. northwest corner of Lafayette St.	Single
Grand St. northeast corner of Broad St.	Single
Grand St. northeast corner of Lawrence St.	Single
Grand St. opposite No. 60	Double
Gray St. northeast corner of Evergreen Ave.	Double
Gray St. northwest corner of Sisson Ave.	Double
Green St. southeast corner of Fairmount St.	Single
Green St. northwest corner of Winter St.	Single
Greenfield St. opposite No. 7	Double
Greenfield St. opposite Lenox St.	Double
Greenfield St. opposite Oakland Terrace	Single
Greenfield St. ext. northeast corner of Vine St.	Single
Greenfield St. ext. opposite Nos. 14-16	Steamer
Greenwood St. southwest corner of Park St.	Double
Grove St. northeast corner of Prospect St.	Steamer
Grove St. opposite No. 62	Steamer
Grove St. opposite No. 74	Steamer
Grove St. opposite Mechanic St.	Steamer
Grove St. opposite No. 135	Steamer

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Grove St. southeast corner of Commerce St.	Single
Hamilton St. opposite Nos. 31-33	Steamer
Hamilton St. opposite Nos. 57-59	Steamer
Hamilton St. southeast corner of Hillside Ave.	Single
Hamilton St. opposite No. 117	Single
Hamilton St. southeast corner of Wellington St.	Single
Hamilton St. east of R. R. crossing	Single
Harbison Ave. northwest corner of Zion St.	Single
Harbison Ave. opposite No. 19	Single
Harbison Ave. opposite No. 74	Single
Harbison Ave. west of Hillside Ave.	Steamer
Harold St. north side, west of Blue Hills Ave.	Single
Harold St. northwest corner of Palm St.	Single
Harper St. northwest corner of Love Lane	Single
Harrison Ave. opposite No. 22	Single
Harrison Ave. opposite No. 68	Single
Harvard St. opposite No. 28	Single
Hawthorn St. northwest corner of Sigourney St.	Single
Hawthorn St. north side, west of Laurel St.	Four way
Hawthorn St. opposite No. 133	Four way
Hawthorn St. northwest corner of Forest St.	Single
Hawthorn St. opposite No. 194	Single
Haynes St. east side, north of Pearl St.	Single
Hazel St. opposite No. 31	Single
Hazel St. opposite No. 60	Single
Heath St. northeast corner of Park St.	Single
Heath St. northwest corner of Ashton St.	Single
Heath St. opposite No. 85	Single
Heath St. southwest corner of Capitol Ave. ext.	Steamer
Hendrickxsen Ave. southwest corner of Curcomb St.	Single
Hicks St. northwest corner of Trumbull St.	Steamer
Hicks St. opposite No. 36	Single
High St. west side of Allyn St.	Steamer
High St. northwest corner of Allyn St.	Steamer
High St. opposite Atlantic St.	Steamer
High St. opposite No. 224	Double
Hillside Ave. opposite Ward Place	Double
Holcomb St. opposite Blind Asylum	Steamer
Homestead Ave. corner of Magnolia St.	Steamer
Homestead Ave. corner of Burton St.	Steamer
Homestead Ave. north side, west of Sigourney St.	Double
Homestead Ave. east corner of Cabot St.	Steamer
Hopkins St. southeast corner of Asylum St.	Double
Hopkins St. opposite No. 28	Double
Hopkins St. opposite High School	Single
Hopkins St. opposite No. 66	Single
Howard St. northwest corner of Broad St.	Double
Howard St. northeast corner of Flower St.	Steamer
Hudson St. opposite No. 56	Double
Hudson St. northeast corner of Park St.	Double
Husdon St. east side opposite No. 86	Single
Hudson St. west side opposite No. 86	Steamer
Hudson St. southeast corner of Buckingham St.	Double
Hungerford St. northeast corner of Park St.	Steamer
Hungerford St. opposite No. 11	Single
Hungerford St. northwest corner of Grand St.	Double

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Hungerford St. opposite No. 56.....Single
Hungerford St. northwest corner of Russ St.....Double
Hungerford St. opposite No. 126.....Single
Huntington St. northwest corner of Asylum St.....Single
Huntington St. opposite No. 28.....Single
Huntington St. southwest corner of Collins St.....Single
Huntington St. southeast corner of Ashley St.....Single
Huntington St. southeast corner of Sargeant St.....Double
Huntley Ave. at angle in street.....Single
Hurlburt St. southwest corner of Asylum St.....Double
Hurlburt St. south end of street.....Double
Huyshope Ave. northeast corner of Masseek St.....Single
Huyshope Ave. northwest corner of Weehassat St.....Steamer
Huyshope Ave. opposite No. 69.....Single
Huyshope Ave. opposite No. 73.....Steamer
Huyshope Ave. southwest corner of Sequassen St.....Double
Huyshope Ave. northwest corner of Sequassen St.....Steamer
Huyshope Ave. opposite No. 101.....Double
Huyshope Ave. opposite Engine House.....Single
Imlay St. northwest corner of Hawthorn St.....Double
Imlay St. opposite No. 38.....Single
Imlay St. southwest corner of Farmington Ave.....Single
Irving St. northwest corner of Homestead Ave.....Single
Irving St. opposite No. 36.....Single
Irving St. southwest corner of Albany Ave.....Single
James St. opposite No. 21.....Single
James St. north end of main.....Single
Jefferson St. opposite No. 24.....Single
Jefferson St. opposite No. 36.....Single
Jefferson St. opposite Hudson St.....Steamer
Jefferson St. northwest corner of Seymour St.....Single
Jefferson St. northwest corner of Washington St.....Single
Jefferson St. opposite No. 218.....Single
Jewell St. east of South Ann St.....Double
Jewell St. opposite South Ann St.....Steamer
John St. opposite No. 28.....Steamer
John St. opposite No. 55.....Steamer
John St. opposite No. 77.....Steamer
John St. southwest corner of Buckingham St.....Steamer
Julius St. opposite No. 27.....Single
Julius St. opposite King St.....Single
Kennedy St. opposite No. 41.....Double
Kent St. 250 ft. north of Albany Ave.....Double
Kent St. midway.....Four way
Kent St. 250 ft. south of Norfolk St.....Four way
Kent St. southwest corner of Norfolk St.....Four way
Kenyon St. opposite No. 34.....Single
Kenyon St. opposite No. 87.....Single
Kenyon St. northeast corner of Fern St.....Single
Kenyon St. opposite No. 155.....Single
Kenyon St. southeast corner of Elizabeth St.....Double
Kibbe St. opposite No. 9½.....Single
Kilbourn St. northeast corner of Front St.....Double
Kilbourn St. northeast corner of Charles St.....Steamer
King St. opposite No. 28.....Single
Kinsley St. south side, west of Market St.....Steamer

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Lafayette St. northwest corner of Park St.	Double
Lafayette St. opposite No. 81	Double
Laurel St. north of Electric Vehicle Co.	Steamer
Laurel St. northwest corner of Willow St.	Single
Laurel St. opposite No. 68	Single
Laurel St. southwest corner of Capitol Ave.	Single
Laurel St. northeast corner of Hawthorn St.	Single
Laurel St. opposite No. 241	Single
Laurel St. southwest corner of Farmington Ave.	Single
Laurel St. opposite No. 356	Single
Lawrence St. northwest corner of Ward St.	Single
Lawrence St. southwest corner of Park St.	Single
Lawrence St. northeast corner of Park St.	Single
Lawrence St. northwest corner of Russ St.	Steamer
Lawrence St. opposite No. 231	Single
Lawrence St. southwest corner of Capitol Ave.	Double
Lawrence St. opposite No. 293	Double
Lawrence St. opposite No. 301	Steamer
Lee St. southwest corner of Harold St.	Single
Lenox St. opposite No. 50	Double
Lewis St. northeast corner of Gold St.	Double
Lewis St. opposite No. 30	Double
Liberty St. northeast corner of Garden St.	Single
Lincoln St. northwest corner of Washington St.	Single
Lincoln St. opposite No. 21	Single
Lincoln St. opposite No. 56	Single
Lincoln St. opposite No. 99	Single
Linden Place opposite No. 26	Single
Linnmoore Ave. corner of Grandview Terrace	Steamer
Linnmoore Ave. corner of Fairview Terrace	Steamer
Loomis St. north side, east of Bellevue St.	Double
Lorraine St. opposite No. 23	Double
Lorraine St. opposite No. 55	Single
Lorraine St. southeast corner of Sherman St.	Single
Love Lane 100 ft. north of Westland St.	Steamer
Love Lane opposite No. 100	Steamer
McKinley St. opposite No. 21	Single
McLean St. east side, south of South St.	Double
Madison Ave. opposite No. 9	Single
Madison Ave. southwest corner of Kibbe St.	Single
Madison Ave. opposite No. 91	Single
Madison Ave. southwest corner of Park St.	Single
Madison St. northwest corner of Washington St.	Single
Madison St. opposite No. 37	Single
Madison St. southeast corner of Broad St.	Single
Magnolia St. opposite No. 33	Single
Magnolia St. southwest corner of Albany Ave.	Single
Mahl Ave. opposite No. 16	Double
Mahl Ave. opposite No. 57	Double
Main St. opposite No. 15	Double
Main St. opposite No. 67	Steamer
Main St. opposite No. 96	Steamer
Main St. north end of South Green	Single
Main St. opposite No. 151	Double
Main St. opposite No. 189	Double
Main St. opposite No. 214	Steamer

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Main St. opposite No. 231	Double
Main St. opposite No. 270	Single
Main St. northwest corner of Buckingham St.	Double
Main St. opposite No. 390	Steamer
Main St. opposite No. 396	Steamer
Main St. northwest corner of Capitol Ave.	Double
Main St. northwest corner of Linden Place	Double
Main St. southwest corner of Elm St.	Double
Main St. opposite No. 493	Steamer
Main St. northwest corner of Wells St.	Double
Main St. northeast corner of Arch St.	Steamer
Main St. opposite No. 568	Steamer
Main St. opposite No. 571	Single
Main St. opposite Morgan Memorial	Steamer
Main St. southwest corner of Mulberry St.	Steamer
Main St. northwest corner of Mulberry St.	Double
Main St. southeast corner of Atheneum St.	Steamer
Main St. opposite Aetna Ins. Co.	Steamer
Main St. northwest corner of Gold St.	Single
Main St. opposite Center Church	Steamer
Main St. northeast corner of Grove St.	Steamer
Main St. opposite No. 709	Steamer
Main St. opposite No. 737	Steamer
Main St. opposite No. 740	Steamer
Main St. southwest corner of Pearl St.	Steamer
Main St. southeast corner of Central Row	Steamer
Main St. northeast corner of Central Row	Steamer
Main St. southeast corner of State St.	Steamer
Main St. northwest corner of Asylum St.	Double
Main St. opposite No. 859	Double
Main St. southeast corner of Kinsley St.	Steamer
Main St. southwest corner of Kinsley St.	Steamer
Main St. southwest corner of Pratt St.	Steamer
Main St. southeast corner of Temple St.	Steamer
Main St. opposite Wise, Smith & Co.	Steamer
Main St. southwest corner of Church St.	Steamer
Main St. opposite G. Fox & Co.	Steamer
Main St. northeast corner of Talcott St.	Double
Main St. opposite No. 1003	Steamer
Main St. opposite No. 1026	Double
Main St. northeast corner of Morgan St.	Steamer
Main St. opposite No. 1043	Steamer
Main St. opposite No. 1068	Steamer
Main St. opposite No. 1081	Steamer
Main St. opposite No. 1104	Single
Main St. opposite No. 1132	Double
Main St. southeast corner of Trumbull St.	Steamer
Main St. opposite No. 1170	Single
Main St. opposite Goodman Place	Steamer
Main St. opposite No. 1213	Steamer
Main St. opposite No. 1230	Double
Main St. opposite No. 1261	Steamer
Main St. east side, north of Pleasant St.	Steamer
Main St. opposite No. 1305	Steamer
Main St. opposite Keney Tower	Double
Main St. southeast corner of Ely St.	Double

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Mannz Court opposite No. 8.....Single
Mansfield St. 300 ft. east of Edgewood St.....Double
Maple Ave. junction of Retreat Ave.....Steamer
Maple Ave. opposite No. 81.....Double
Maple Ave. opposite No. 120.....Double
Maple Ave. opposite Morris St.....Single
Maple Ave. opposite No. 222.....Single
Maple Ave. opposite No. 286.....Single
Maple Ave. opposite No. 324.....Single
Maple Ave. west side, north of Benton St.....Single
Maple Ave. east side, south of Benton St.....Single
Maple Ave. opposite Whitmore St.....Steamer
Maple Ave. southwest corner of King St.....Steamer
Maple Ave. northwest corner of Dartmouth St.....Double
Maple Ave. northwest corner of White St.....Steamer
Market St. northwest corner of State St.....Steamer
Market St. opposite No. 33.....Steamer
Market St. opposite No. 46.....Steamer
Market St. northwest corner of Kinsley St.....Steamer
Market St. opposite No. 179.....Steamer
Market St. northwest corner of Morgan St.....Steamer
Market St. opposite No. 271.....Single
Marlborough St. at angle in street.....Double
Marlborough St. east side, south of Albany Ave.....Double
Marshall St. northwest corner of Farmington Ave.....Single
Marshall St. opposite No. 15.....Single
Marshall St. opposite Case St.....Steamer
Martin St. northwest corner of Capen St.....Single
Martin St. opposite No. 78.....Single
Martin St. northeast corner of Judson St.....Single
Martin St. southwest corner of Westland St.....Single
Martin St. opposite Risley St.....Single
Mather St. opposite No. 25.....Single
Mather St. southwest corner of East St.....Single
Mather St. northwest corner of Cemetery St.....Single
Mather St. southeast corner of Brook St.....Steamer
May St. opposite No. 17.....Single
May St. southwest corner of Sargeant St.....Single
Meadow St. east end of main.....Double
Mechanic St. northeast corner of Potter St.....Single
Mechanic St. opposite No. 13.....Steamer
Mechanic St. opposite No. 33.....Steamer
Morgan St. opposite No. 18.....Steamer
Morgan St. southwest corner of Market St.....Steamer
Morgan St. east of Market St.....Four way
Morgan St. opposite West Freight House.....Four way
Morris St. northeast corner Congress St.....Four way
Morris St. opposite Dean St.....Four way
Mortson St. opposite No. 19.....Single
Mountain St. opposite No. 30.....Single
Mountford St. northwest corner of Maple Ave.....Steamer
Mountford St. west of Maple Ave.....Steamer
Mountford St. opposite Julius St.....Steamer
Mulberry St. southeast corner of Wells St.....Steamer
New Britain Ave. southeast corner of Ellsworth St.....Single
New Britain Ave. opposite Julius St.....Single

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New Britain Ave. opposite No. 192	Single
New Britain Ave. opposite No. 220	Double
New Britain Ave. opposite No. 249	Single
New Britain Ave. opposite No. 392	Single
New Britain Ave. southeast corner of Hillside Ave.	Single
New Britain Ave. opposite No. 481	Single
New Britain Ave. opposite No. 517	Single
New Britain Ave. opposite No. 556	Single
New Britain Ave. opposite No. 595	Single
New Britain Ave. opposite White St.	Double
New Britain Ave. opposite No. 664	Single
New Britain Ave. southwest corner of Newington Ave.	Double
New Britain Ave. northwest corner of Clermont St.	Single
New Britain Ave. north side, east of New field Ave.	Single
New Britain Ave. north side, west of Newfield Ave.	Single
Newfield Ave. southwest corner of Flatbush Ave.	Double
Newington Ave. opposite Atwood's barn	Single
Newington Ave. opposite No. 95	Single
Newington Ave. south end of main	Single
New Park Ave. opposite Nos. 31-33	Double
New Park Ave. opposite No. 100	Double
New Park Ave. opposite No. 130	Double
New Park Ave. south of Royal Typewriter Co.	Double
New Park Ave. at brick yard	Double
New Park Ave. southwest corner of Merrill Ave.	Single
New Park Ave. opposite No. 344	Single
New Park Ave. northwest corner of Prospect Ave.	Double
Newton St. northwest corner of Park St.	Four way
Newton St. north of Park St.	Four way
Newton St. midway	Four way
Newton St. opposite No. 79	Four way
Niles St. northwest corner of Sigourney St	Double
Niles St. opposite No. 30	Steamer
Niles St. opposite No. 50	Single
Niles St. southeast corner of Marshall St.	Steamer
Niles St. northeast corner of Gillett St.	Double
Norfolk St. opposite Adams St.	Single
Norfolk St. opposite Baltimore St.	Double
North St. opposite No. 40	Single
North St. opposite No. 100	Single
North St. northeast corner of Windsor St	Single
North Beacon St. northwest corner of Farmington Ave.	Double
North Beacon St. opposite No. 31	Single
North Beacon St. opposite No. 49	Single
North Beacon St. southeast corner of Cone St.	Single
North Beacon St. opposite No. 175	Double
North Beacon St. opposite No. 199	Single
North Beacon St. 250 ft. south of Elizabeth St.	Double
Oak St. opposite No. 5	Single
Oak St. opposite No. 10	Four way
Oak St. northwest corner of Grand St.	Single
Oak St. opposite No. 60	Single
Oak St. opposite No. 109	Single
Oakland Terrace opposite Nos. 2-4	Double
Oakland Terrace opposite Nos. 54-56	Single
Oakland Terrace southwest corner of Albany Ave.	Double

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Oakland Terrace opposite No. 107	Double
Oakland Terrace opposite No. 128	Double
Oakland Terrace opposite No. 149	Double
Olive St. north side, east of Bartholomew Ave.	Single
Orange St. 260 ft. north of Park St.	Four way
Orange St. 520 ft. north of Park St.	Four way
Orange St. 325 ft. south of Boulevard	Steamer
Otis St. opposite No. 37	Single
Otis St. west of No. 50	Four way
Otis St. opposite Greenhouse	Four way
Oxford St. opposite No. 50	Single
Oxford St. southwest corner of Farmington Ave.	Single
Oxford St. northeast corner of Farmington Ave.	Single
Oxford St. opposite No. 135	Single
Oxford St. opposite No. 233	Double
Oxford St. opposite Nos. 252-4	Single
Oxford St. 420 ft. south of Elizabeth St.	Double
Oxford St. southwest corner of Elizabeth St.	Single
Park St. northwest corner of John St.	Single
Park St. northeast corner of Washington St.	Single
Park St. opposite Squire St.	Single
Park St. southwest corner of Zion St.	Single
Park St. opposite Laurel St.	Steamer
Park St. opposite Electric Vehicle Co.	Steamer
Park St. west of Park River Bridge	Steamer
Park St. southeast corner of Bartholomew Ave.	Steamer
Park St. south side west of Bartholomew Ave.	Steamer
Park St. northeast corner of Orange St.	Double
Park St. opposite No. 743	Double
Park St. opposite New Park Ave.	Steamer
Park St. opposite No. 828	Single
Park St. opposite No. 853	Single
Park St. opposite No. 983	Single
Park Terrace opposite No. 112	Double
Park Terrace northwest corner of Park St.	Double
Park Terrace east side, south of Park St.	Double
Park Terrace opposite York St.	Double
Park Terrace southeast corner of Ward St.	Double
Park Terrace opposite No. 286	Four way
Park Terrace opposite No. 308	Four way
Park Terrace 250 ft. north of Hamilton St.	Four way
Pavilion St. northeast corner of Windsor Ave.	Single
Pawtucket St. north side west of Franklin Ave.	Single
Pearl St. southwest corner of Main St.	Single
Pearl St. opposite No. 19	Steamer
Pearl St. opposite No. 33	Steamer
Pearl St. southeast corner of Lewis St.	Steamer
Pearl St. opposite No. 82	Double
Pearl St. opposite No. 125	Steamer
Pearl St. opposite No. 168	Steamer
Pearl St. opposite Haynes St.	Steamer
Pearl St. No. 234	Steamer
Pearl St. opposite So. Ann St.	Double
Pearl St. southwest corner of So. Ann St.	Double
Pearl St. opposite No. 306	Steamer
Pearl St. in front of Y. M. C. A. building	Steamer

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Putnam St. southwest corner of Russ St.	Single
Putnam St. northwest corner of Russ St.	Single
Pequot St. opposite No. 42	Steamer
Plainfield St. east end of main	Double
Pleasant St. opposite Winthrop St.	Single
Pleasant St. south side, east of Windsor St.	Double
Pleasant St. northwest corner of Village St.	Steamer
Pleasant St. opposite No. 60	Steamer
Pleasant St. southwest corner of Market St.	Double
Pliny St. northwest corner of Cemetery St.	Single
Pliny St. opposite No. 33	Single
Pliny St. opposite No. 66	Single
Pliny St. near Garden St.	Steamer
Portland St. opposite No. 15	Double
Portland St. opposite No. 115	Single
Potter St. opposite No. 26	Steamer
Potter St. south side, east of Ellery St.	Steamer
Potter St. opposite Coal Pocket	Double
Potter St. east side of R. R. tracks	Steamer
Potter St. at Electric Light Co.'s plant	Double
Pratt St. northwest corner of Main St.	Double
Pratt St. opposite No. 31	Steamer
Pratt St. opposite No. 68	Steamer
Preston St. opposite No. 16	Single
Preston St. opposite No. 36	Four way
Preston St. opposite No. 60	Double
Preston St. northwest corner of Franklin Ave.	Steamer
Preston St. opposite No. 102	Double
Preston St. northeast corner of Campfield Ave.	Single
Prospect Ave. opposite No. 54	Single
Prospect Ave. opposite No. 107	Single
Prospect Ave. northeast corner of Park St.	Single
Prospect Ave. opposite No. 394	Single
Prospect Ave. opposite No. 414	Single
Prospect Ave. opposite No. 461	Single
Prospect Ave. opposite No. 558	Single
Prospect Ave. opposite No. 584	Double
Prospect Ave. northwest corner of Farmington Ave.	Single
Prospect Ave. opposite No. 650	Double
Prospect Ave. northeast corner of Fern St.	Double
Prospect Ave. opposite No. 830	Double
Prospect Ave. opposite Elizabeth Park	Single
Prospect Ave. 635 ft. north of Asylum St	Double
Prospect Ave. 950 ft. north of Asylum St.	Double
Prospect Ave. opposite No. 1049	Steamer
Prospect Ave. opposite No. 1075	Double
Prospect Ave. opposite No. 1101	Double
Prospect Ave. opposite Gov. Roberts' house	Steamer
Prospect Ave. opposite Col. Robinson's house	Steamer
Prospect St. northeast corner of Arch St.	Steamer
Prospect St. northwest corner of Grove St.	Steamer
Putnam Heights opposite No. 19	Double
Putnam Heights northeast corner of Park Terrace	Double
Putnam St. southwest corner of Park St.	Double
Putnam St. opposite No. 122	Single
Putnam St. opposite No. 168	Single

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Putnam St. opposite No. 246	Single
Queen St. northwest corner of Broad St.	Steamer
Queen St. north side west of Flower St.	Single
Raymond St. northwest corner of Vine St.	Single
Raymond St. opposite No. 39	Single
Raymond St. Ext. east end of main	Steamer
Regent St. southwest corner of Warrenton Ave.	Single
Retreat Ave. opposite No. 66	Steamer
Retreat Ave. opposite So. Hudson St.	Single
Roosevelt St. opposite No. 16	Single
Roosevelt St. opposite McLean St.	Double
Rose St. north side, east of Bartholomew Ave.	Single
Rowe Ave. west side, north of Park St.	Single
Rowe Ave. opposite No. 49	Singl
Rowe Ave. opposite No. 102	Single
Russ St. northwest corner of Lafayette St.	Single
Russell St. northeast corner of Windsor Ave.	Steamer
Russell St. opposite No. 6	Steamer
Russell St. 300 ft. west of Donald St.	Steamer
Sanford St. northwest corner of Windsor St.	Single
Sargeant St. northwest corner of Garden St.	Single
Sargeant St. opposite No. 33	Double
Sargeant St. opposite No. 69	Double
Sargeant St. northeast corner of Sigourney St.	Double
Sargeant St. opposite Atwood St.	Double
Sargeant St. opposite No. 289	Double
Sargeant St. northeast corner of Woodland St.	Double
Scarborough St. south of Albany Ave.	Double
Scarborough St. north of Asylum St.	Double
School St. north side, west of Washington St.	Double
Sequassen St. south side, west of Vredendale Ave.	Steamer
Sequassen St. opposite Vredendale Ave.	Single
Sequassen St. south side, east of Vredendale Ave.	Steamer
Seymour St. northeast corner of Retreat Ave.	Steamer
Seymour St. opposite No. 69	Single
Seymour St. opposite No. 167	Single
Seyms St. northwest corner of Windsor Ave.	Single
Seyms St. northeast corner of East St.	Single
Seyms St. northeast corner of Center St.	Single
Sheldon St. northeast corner of Main St.	Steamer
Sheldon St. opposite No. 65	Steamer
Sheldon St. opposite South Prospect St.	Steamer
Sheldon St. opposite No. 104	Steamer
Sheldon St. north side, west of Governor St.	Double
Sheldon St. south side, east of Governor St.	Single
Sheldon St. southwest corner of Union St.	Steamer
Sheldon St. southeast corner of Taylor St.	Single
Sheldon St. opposite Street Dept. Building	Double
Sheldon St. northwest corner of Charter Oak Ave.	Double
Sherman St. opposite No. 8	Double
Shultas Place northwest corner of Wethersfield Ave.	Steamer
Shultas Place opposite No. 35	Single
Shultas Place northeast corner of Franklin Ave.	Single
Shultas Place northwest corner of Franklin Ave.	Steamer
Shultas Place opposite No. 101-103	Steamer
Sigourney St. opposite Cushman St.	Single

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Sigourney St. west side, south of R. R. tracks.....Single
Sigourney St. opposite No. 69 .....Single
Sigourney St. southeast corner of Farmington Ave.....Steamer
Sigourney St. northwest corner of Farmington Ave.....Double
Sigourney St. northwest corner of Asylum St. .....Double
Sigourney St. opposite No. 181.....Single
Sigourney St. southwest corner of Collins St.....Double
Sigourney St. opposite No. 349.....Single
Sigourney St. west side, south of Albany Ave.....Single
Sisson Ave. opposite No. 34.....Single
Sisson Ave. opposite No. 77.....Single
Sisson Ave. northwest corner of Warrenton Ave.....Single
Sisson Ave. opposite No. 219.....Double
Sisson Ave. southwest corner of Farmington Ave.....Single
Smith St. opposite No. 34.....Single
Smith St. opposite No. 77.....Single
Smith St. opposite No. 112 .....Single
Smith St. opposite No. 150 .....Single
Smith St. southeast corner of Warrenton Ave.....Single
Smith St. opposite No. 233.....Single
Smith St. southwest corner of Farmington Ave.....Double
South St. southwest corner of Wethersfield Ave.....Double
South St. opposite No. 9.....Four way
South St. north side opposite No. 47.....Double
South St. west of Fenwick St.....Steamer
South Ann St. northeast corner of Hicks St.....Steamer
Southbury St. north side, east of Mountain St.....Single
South Hudson St. opposite No. 29.....Single
South Woodbine St. opposite No. 2.....Single
Spring St. northwest corner of Asylum St. .....Steamer
Spring St. southeast corner of Church St.....Double
Spruce St. opposite No. 7.....Single
Squire St. southwest corner Park St.....Four way
Squire St. opposite No. 11.....Four way
Squire St. northwest corner Ward St.....Four way
Standish St. opposite No. 32.....Steamer
Standish St. 370 ft. east of Franklin Ave.....Steamer
Standish St. northwest corner of Franklin Ave.....Single
Standish St. opposite No. 139.....Single
Standish St. northeast corner of George St.....Single
State St. opposite No. 6.....Steamer
State St. opposite No. 64.....Steamer
State St. southeast corner of American Row.....Steamer
State St. opposite No. 129.....Steamer
State St. opposite No. 150.....Steamer
State St. opposite No. 167.....Steamer
State St. southwest corner of Front St.....Steamer
State St. southeast corner of Front St.....Steamer
State St. opposite No. 213.....Steamer
State St. opposite No. 228.....Steamer
State St. opposite No. 247.....Steamer
State St. southwest corner of Commerce St.....Steamer
Stedman St. opposite No. 19.....Steamer
Summit St. south line College Grounds.....Double
Summit opposite College Building.....Steamer
Summit St. back of College Building .....Double

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Summit St. back of College Building	Double
Summit St. southeast corner of Park Terrace	Single
Sumner St. northeast corner of Asylum St.	Single
Sumner St. opposite No. 12	Steamer
Sumner St. opposite No. 31	Single
Sumner St. southeast corner of Collins St.	Double
Talcott St. northwest corner of Market St.	Steamer
Talcott St. opposite Baptist Church	Steamer
Talcott St. southwest corner of Front St.	Single
Talcott St. northwest corner of Charles St.	Steamer
Taylor St. east side, north of Charter Oak Ave.	Single
Temple St. opposite No. 26	Steamer
Temple St. opposite No. 68	Steamer
Temple St. northwest corner Front St.	Steamer
Temple St. northwest corner of Market St.	Steamer
Temple St. northeast corner of Market St.	Steamer
Tower Ave. northeast corner of Hartland St.	Single
Townley St. northeast corner of Atwood St.	Single
Tremont St. opposite No. 47	Double
Tremont St. opposite No. 73	Double
Tremont St. southwest corner of Farmington Ave.	Single
Tremont St. northwest corner of Farmington Ave.	Single
Tremont St. opposite No. 131	Single
Tremont St. southwest corner of Cone St.	Double
Trinity St. northeast corner of Capitol Ave.	Single
Trumbull St. west of Lewis St.	Single
Trumbull St. opposite Jewell St.	Steamer
Trumbull St. opposite No. 56	Steamer
Trumbull St. opposite No. 105	Steamer
Trumbull St. northeast corner of Pearl St.	Steamer
Trumbull St. southwest corner of Asylum St.	Steamer
Trumbull St. northeast corner of Asylum St.	Steamer
Trumbull St. northwest corner of Asylum St.	Steamer
Trumbull St. northeast corner of Pratt St.	Double
Trumbull St. southeast corner of Church St.	Double
Trumbull St. northeast corner of Church St.	Steamer
Trumbull St. opposite No. 354	Steamer
Trumbull St. opposite Chapel St.	Single
Union Place east side, north of Asylum St.	Steamer
Union Place southeast corner of Allyn St.	Steamer
Trumbull St. southeast corner of Church St.	Steamer
Union St. west side opposite Water Dept. Building	Steamer
VanDyke Ave. south of Colt's Shop	Steamer
VanDyke Ave. northwest corner of Sequassen St.	Steamer
Vernon St. southwest corner of Washington St.	Double
Vernon St. opposite No. 27	Double
Vernon St. northeast corner of Broad St.	Double
Vernon St. opposite No. 90	Single
Vernon St. opposite No. 102	Single
Vernon St. opposite No. 122	Single
Victoria Road northwest corner Wethersfield Ave.	Steamer
Victoria Road opposite No. 8	Steamer
Victoria Road 560 ft. west of Wethersfield Ave	Four way
Victoria Road 800 ft. west of Wethersfield Ave.	Four way
Victoria Road 250 ft. east of Franklin Ave.	Four way
Village St. southeast corner of Marsh Court	Single

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Vine St. northeast corner of Mather St. ..... Single
Vine St. opposite No. 97 ..... Single
Vine St. opposite No. 146 ..... Single
Vine St. opposite No. 203 ..... Single
Vine St. northeast corner of Capen St. ..... Single
Vine St. opposite No. 268 ..... Single
Vine St. opposite Vineland Terrace ..... Four way
Vine St. opposite No. 328 ..... Single
Vine St. northeast corner of Winchester St. ..... Single
Vine St. southeast corner of Westland St. ..... Single
Vine St. opposite Almshouse ..... Double
Vine St. opposite Almshouse ..... Steamer
Vineland Terrace, 300 ft. east of Vine St. ..... Four way
Wadsworth St. northeast corner of Park St. ..... Steamer
Wadsworth St. opposite No. 63 ..... Single
Wadsworth St. southeast corner of Buckingham St. ..... Double
Walnut St. northwest corner of High St. ..... Steamer
Walnut St. opposite No. 6 ..... Steamer
Walnut St. northwest corner of Edwards St. ..... Double
Walnut St. northwest corner of Williams St. ..... Single
Walnut St. opposite No. 82 ..... Single
Walnut St. northeast corner of Garden St. ..... Single
Ward St. northwest corner of Washington St. ..... Single
Ward St. opposite Wolcott St. ..... Single
Ward St. opposite Putnam St. ..... Single
Ward St. opposite No. 220 ..... Single
Ward Place 300 ft. east of Hillside Ave. ..... Four way
Warner St. east end of street ..... Four way
Warner St. west end of street ..... Four way
Warren St. opposite No. 43 ..... Single
Warrenton Ave. opposite Evergreen Ave. ..... Double
Warrenton Ave. opposite Tremont St. ..... Double
Warrenton Ave. northeast corner of Beacon St. ..... Single
Warrenton Ave. northeast corner of Prospect Ave. ..... Double
Washington St. opposite No. 11 ..... Single
Washington St. opposite No. 29 ..... Single
Washington St. southwest corner of Allen Place ..... Steamer
Washington St. southeast corner of Park St. ..... Double
Washington St. opposite No. 133 ..... Single
Washington St. opposite No. 138 ..... Single
Washington St. opposite Buckingham St. ..... Single
Waverly St. northwest corner of Love Lane ..... Single
Wawarme Ave. opposite Hendricxsen Ave. ..... Single
Wawarme Ave. east end of street ..... Single
Webster St. opposite No. 42 ..... Single
Webster St. opposite No. 75 ..... Single
Webster St. southeast corner of Barnard St. ..... Single
Weehassat St. southeast corner of VanBlock Ave. ..... Single
Weehassat St. east of Huyshope Ave. ..... Double
Wellington St. west side, south of Belmont St. ..... Single
Wells St. opposite No. 40 ..... Single
Wells St. opposite No. 60 ..... Single
Westland St. opposite schoolhouse ..... Single
Westland St. opposite schoolhouse ..... Steamer
Wethersfield Ave. opposite No. 1 ..... Steamer
Wethersfield Ave. opposite No. 21 ..... Double

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Wethersfield Ave. northwest corner of Morris St.....Four way
Wethersfield Ave. opposite Annawan St.....Double
Wethersfield Ave. opposite No. 133.....Four way
Wethersfield Ave. opposite No. 150.....Double
Wethersfield Ave. opposite car barn.....Steamer
Wethersfield Ave. opposite Elliott St.....Double
Wethersfield Ave. northwest corner of Mannz St.....Four way
Wethersfield Ave. opposite Bond St.....Single
Wethersfield Ave. southwest corner of Barker St.....Four way
Wethersfield Ave. opposite No. 227.....Double
Wethersfield Ave. southwest corner of Adelaide St.....Four way
Wethersfield Ave. opposite No. 254.....Single
Wethersfield Ave. southwest corner of Bliss St.....Four way
Wethersfield Ave. opposite Preston St.....Single
Wethersfield Ave. 150 ft. south of Preston St.....Four way
Wethersfield Ave. opposite Bodwell St.....Single
Wethersfield Ave. opposite No. 315.....Four way
Wethersfield Ave. opposite No. 324.....Single
Wethersfield Ave. southwest corner of Brown St.....Four way
Wethersfield Ave. opposite Standish St.....Single
Wethersfield Ave. opposite No. 365.....Four way
Wethersfield Ave. northwest corner of Roosevelt St.....Four way
Wethersfield Ave. opposite No. 404.....Double
Wethersfield Ave. opposite No. 410.....Four way
Wethersfield Ave. 250 ft. north of Eaton St.....Four way
Wethersfield Ave. opposite No. 475.....Four way
Wethersfield Ave. opposite No. 478.....Single
White St. opposite Fairview Terrace.....Steamer
White St. opposite School Building.....Steamer
Whitmore St. opposite No. 20.....Single
Whitmore St. opposite No. 61.....Single
Whitmore St. opposite No. 98.....Single
Whitney St. northeast corner of Farmington Ave.....Single
Whitney St. opposite No. 35.....Single
Whitney St. opposite Cone St.....Double
Whitney St. southwest corner of Fern St.....Double
Whitney St. 300 ft. north of Fern St.....Double
Whitney St. 300 ft. south of Elizabeth St.....Steamer
Whitney St. northeast corner of Elizabeth St.....Double
Whitney St. 450 ft. north of Elizabeth St.....Single
Whitney St. southeast corner of Asylum St.....Double
Willard St. northeast corner of Asylum St.....Single
Willard St. opposite No. 42.....Single
Willard St. southeast corner of Collins St.....Single
Williams St. southwest corner of Liberty St.....Single
Williams St. opposite No. 69.....Steamer
Williams St. southwest corner of Albany Ave.....Four way
Willow St. opposite No. 68.....Single
Willow St. southeast corner Capitol Ave.....Steamer
Wilson St. opposite No. 41.....Single
Wilson St. southwest corner of Hillside Ave.....Single
Wilson St. 350 ft. west of Hillside Ave.....Four way
Windsor Ave. at Tunnel.....Single
Windsor Ave. at No. 11.....Double
Windsor Ave. northeast corner of Goodwin St.....Double
Windsor Ave. southwest corner of Belden St.....Double

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Windsor Ave. northwest corner of Florence St.....Double
Windsor Ave. northwest corner of Mather St.....Double
Windsor Ave. opposite No. 194.....Single
Windsor Ave. opposite No. 230.....Single
Windsor Ave. southwest corner of Mahl Ave.....Double
Windsor Ave. opposite Spring Grove Cemetery.....Single
Windsor Ave. opposite No. 318.....Single
Windsor Ave. northeast corner of Suffield St.....Single
Windsor Ave. southwest corner of Capen St.....Double
Windsor Ave. opposite Capen St.....Single
Windsor Ave. northeast corner of Sanford St.....Single
Windsor Ave. opposite No. 522.....Single
Windsor Ave. opposite Westland St.....Single
Windsor Ave. opposite No. 628.....Steamer
Windsor Ave. opposite No. 666.....Single
Windsor Ave. opposite No. 743.....Single
Windsor Ave. opposite Frankfort St.....Single
Windsor Ave. opposite No. 888.....Single
Windsor Ave. northeast corner of Fishfry St.....Single
Windsor Ave. northwest corner of Tower Ave.....Single
Windsor Ave. opposite No. 1016.....Single
Windsor Ave. opposite No. 1087.....Single
Windsor Ave. at City Line.....Single
Windsor St. junction of Village St.....Double
Windsor St. southwest corner of Orchard St.....Single
Windsor St. northeast corner of Pleasant St.....Double
Windsor St. opposite No. 283.....Double
Windsor St. opposite No. 332.....Double
Windsor St. southeast corner of Avon St.....Double
Windsor St. opposite No. 379.....Double
Windsor St. south of R. R. Tracks.....Single
Windsor St. north of R. R. Tracks.....Steamer
Windsor St. opposite No. 415.....Single
Windsor St. opposite No. 427.....Steamer
Windsor St. southwest corner of Russell St.....Single
Windsor St. opposite No. 501.....Double
Windsor St. opposite Aetna Brewing Co.....Steamer
Windsor St. north of Blake St.....Double
Windsor St. southwest corner of Suffield St.....Steamer
Windsor St. northwest corner of Suffield St.....Steamer
Windsor St. opposite Hartford Foundry.....Double
Windsor St. opposite No. 700.....Steamer
Windsor St. 290 ft. north of Sanford St.....Steamer
Windsor St. opposite Universal Machine Screw Co.....Steamer
Windsor St. opposite American Tobacco Co.....Steamer
Windsor St. south of Windsor Ave.....Steamer
Winship St. opposite Douglas St.....Double
Winship St. southwest corner of Preston St.....Double
Winter St. opposite No. 16.....Single
Winthrop St opposite Ely St.....Double
Wolcott St. opposite Brady Court.....Single
Wolcott St. southeast corner of Park St.....Single
Woodbine St. opposite No. 21.....Single
Woodbine St. opposite No. 63.....Single
Woodbine St. southwest corner of Capitol Ave.....Steamer
Woodbridge St. opposite Nos. 28-30.....Steamer

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Woodbridge St. opposite No. 43	Steamer
Woodland St. northwest corner of Farmington Ave.	Double
Woodland St. opposite No. 21	Single
Woodland St. opposite Niles St.	Double
Woodland St. opposite No. 94	Double
Woodland St. opposite No. 122	Single
Woodland St. opposite Austin Organ Co.	Double
Woodland St. opposite Austin Organ Co.	Steamer
Woodland St. southwest corner of Harrison Pl.	Single
Woodland St. opposite No. 205	Single
Woodland St. northwest corner of Albany Ave.	Steamer
Wooster St. opposite No. 34	Single
Wooster St. southeast corner of Pavilion St.	Double
Wooster St. opposite No. 100	Steamer
Wooster St. southeast corner of Suffield St.	Single
Wyllys St. opposite Charter Oak Place	Single
Wyllys St. east of Governor St.	Single
Wyllys St. east of Union St.	Single
Wyllys St. northwest corner of Huyshope Ave.	Single
York St. opposite No. 16	Single
Zion St. opposite Nos. 5-7	Double
Zion St. opposite No. 25	Single
Zion St. southwest corner of Flatbush Ave.	Single
Zion St. southwest corner of Bonner St.	Single
Zion St. southwest corner of Wilson St.	Single
Zion St. southwest corner of Ward Place	Single
Zion St. northwest corner of Glendale Ave.	Single
Zion St. southwest corner of Hamilton St.	Double
Zion St. southwest corner of Summit St.	Double
Zion St. opposite No. 205	Double
Zion St. southwest corner of Ward St.	Double
Zion St. northeast corner of Ward St.	Single

Summary of Hydrants in Use March 1, 1913

	Single	*Double*	*Four-Way*	*Steamer*	*Total*
Number of each kind	582	327	104	354	1367

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TABLE XIII.

TABLE OF CONSUMPTION FROM 1900 TO 1913, INCLUSIVE.

Year Ending March 1	Estimated Population Supplied	Average Daily Consumption Million Gallons	Consumption Per Capita Per Day In Gallons	Number of Services Installed During Year	Total Number to March 1	Number of Meters Installed During Year	Total Number to March 1
1900	.....	.....	.....	.....	8,951	.....	550
1901	85,500	.....	84.6	305	9,256	2,233	2,783
1902	87,119	.....	76.3	258	9,514	3,960	6,743
1903	88,609	6.98	78.8	169	9,683	2,413	9,156
1904	89,961	6.90	76.7	126	9,809	448	9,604
1905	91,396	6.35	69.4	197	10,006	256	9,860
1906	92,918	6.14	66.3	322	10,328	277	10,137
1907	94,297	6.50	68.9	295	10,623	296	10,433
1908	96,218	6.94	69.4	329	10,952	359	10,792
1909	100,260	7.01	69.7	247	11,199	255	11,047
1910	108,393	7.35	67.8	385	11,584	414	11,461
1911	116,697	7.71	66.0	491	12,075	457	11,918
1912	121,644	8.05	66.1	546	12,621	529	12,447
1913	126,582	8.64	68.2	657	13,278	658	13,105

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TABLE XIV.

SUMMARY OF STATISTICS.

For the Year Ending March 1, 1913.

In form recommended by the New England Water Works Association.

HARTFORD WATER WORKS.

Hartford (*City or Town.*)	Hartford (*County.*)	Connecticut. (*State.*)

GENERAL STATISTICS.

Population by Census of 1910, 98,915.
Date of construction, 1854.
By whom owned, City of Hartford.
Source of supply, Reservoirs, Surface Water.
Mode of supply (whether gravity of pumping), Gravity.

STATISTICS OF CONSUMPTION OF WATER.

1 Estimated total population at date,.....
2 Estimated population on lines of pipe,.....
3 Estimated population supplied, 126,592.
4 Total consumption for the year, 3,127,943,500 gallons.
5 Passed through meters,.....gallons.
6 Percentage of consumption metered,.....
7 Average daily consumption, 8,640,000 gallons...
8 Gallons per day to each inhabitant,.....
9 Gallons per day to each consumer, 68.2.
10 Gallons per day to each tap, 651.
11 Cost of supplying water, per million gallons, figured on total maintenance item (CC), $.....
12 Total cost of supplying water, per million gallons, figured on total maintenance, plus interest on bonds, $.....

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STATISTICS RELATING TO DISTRIBUTION SYSTEM.

Mains.

1 Kind of pipe, Cast Iron and Cement Lined.
2 Sizes, from 1½ inches to 30 inches.
3 Extended 76,545 feet during year.
4 Discontinued 12,504 feet during year.
5 Total now in use, 179,95.
6 Cost of repairs per mile, $.....
7 Number of leaks per mile.....
8 Length of pipes less than 4 inches diam., 3.80 miles.
9 Number of hydrants added during year, public, 103.
10 Number of hydrants (public), now in use, 1,367.
11 Number of stop gates added during year, 249.
12 Number of stop gates now in use, 2,871.
13 Number of stop gates smaller than 4 inches, 15.
14 Number of blow-offs,.....
15 Range of pressure on mains, 20 lbs. to 90 lbs.

Services.

16 Kind of pipe, Galv. W. I. and Lead-Lined W. I.
17 Sizes, ¾-inch to 8 inches.
18 Extended.....feet.
19 Discontinued.....feet.
20 Total now in use.....miles.
21 Number of service taps added during year, 657.
22 Number now in use, 13,278.
23 Average length of service,.....feet.
24 Average cost of service for the year, $.....
25 Number of meters added, 658.
26 Number now in use, 13,105.
27 Percentage of services metered, 98.7.
28 Percentage of receipts from metered water (B—C),.....
29 Number of motors and elevators added,.....
30 Number now in use,.....

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TABLE XV.

CONTRACTS MADE AND PENDING DURING THE YEAR 1912. (Additional Water Supply.)

No of Contract	Work	No. of Bids	Amount of Bid		Contractor	Date of Contract	Date for Completion of work	Date of Final Estimate	Price of Principal Items of Contract	Value of work done March 1	Total Amount of Contract
			Next to Lowest	Lowest							
1.....	Making borings into rock	2	$23,885.00	$14,560.00	Sprague & Henwood Co., Scranton, Pa.	Mar. 12, 1912	May 12, 1912	Oct. 1, 1912	Sinking casing and core drilling for cores less than 2 in. dia. 3,200 lin. feet, at $4.00; Sinking casing and core drilling for cores of 2 in. or larger dia. 300 lin. feet at $5.50.		16,355.95
3.....	Talcott Mountain Tunnel and Concrete Conduit	9	128,690.00	120,860.00	Stobaugh Contracting Co., New Y'k City	Dec. 2, 1912	April 12, 1914		Earth excavation in open trench 20,000 cu. yd. at $0.95; Rock excavation in open trench 3,000 cu. yd. at $3.50; Excavating Tunnel 2,400 lin. ft. at $16.00; Concrete masonry in tunnel 2,000 cu. yd. at $9.50; Concrete masonry in open trench 1,800 cu. yd. at $8.50; Portland cement 6,000 barrels at $2.10.	10,377.69	
						(Distribution	System.)				
1-M..	Furnishing water meters	4	5,800.00	4,786.25	Hersey Mfg. Co. Boston, Mass.	Dec. 28, 1912	Dec. 31, 1913		½-inch Meters, 250 at $5.78 per meter; ¾-inch Meters 300 at $8.25 per meter; 1-inch Meters, 75 at $11.55 per meter.	1,124.23	

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TABLE XVI.

CONTRACT 1—MAKING BORINGS INTO ROCK.

Canvass of Bids, March 6, 1912.

Item	Description	Unit	Quantity	Sprague & Henwood, Inc. Scranton, Penn.		Healey Contracting Co., 21 Park Row, New York City	
				Price	Amount	Price	Amount
1.....	Sinking casing and core drilling for cores of less than 2 inches diameter.....	lin. ft.	3,200	$4.00	$12,800	$6.79	$21,728
2.....	Sinking casing and core drilling for cores 2 inches or larger diameter.....	lin. ft.	300	5.50	1,650	6.79	2,037
3.....	Casing left in place.....	pounds	2,000	.05½	110	.06	120
	Totals.....	.....	.....	.....	$14,560	.....	$23,885

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TABLE XVII.

CONTRACT 3—CONSTRUCTION OF TALCOTT MOUNTAIN TUNNEL AND CONCRETE CONDUIT.

Canvass of Bids Opened November 21, 1912.

Item	Description	Unit	Quan.	Stobaugh Contracting Company, 1 M'dis'n Ave New York City		Booth & Flinn, Ltd. Pittsburg, Pa.		Fred T. Ley & Co., Springfield, Mass.		W. Horne Co. 71 W. 132 St. New York City		Co-operative Engineering & Contracting Co. New York City	
				Price	Amt.	Price	Amt.	Price	Amt.	Price	Amt.	Price	Amt.
1	Earth excavation in open trenches	c. y.	20,000	0.95	19,000	1.00	20,000	0.90	18,000	0.65	13,000	0.39	7,800
2	Rock excavation in open trenches	c. y.	3,000	3.50	10,500	1.50	4,500	2.35	7,050	2.50	7,500	2.45	7,350
3	Refilling and embanking,	c.y.	10,000	0.30	3,000	0.50	5,000	0.35	3,500	0.30	3,000	0.43	4,300
4	Top-soil surfacing and grassing	c. y.	800	0.50	400	1.00	800	1.00	800	1.25	1,000	0.70	560
5	Excavating tunnel	lin. ft.	2,400	16.00	38,400	24.00	57,600	24.00	57,600	28.00	67,200	28.50	68,400
6	Dry packing in tunnel	c. y.	300	3.50	1,050	11.00	300	5.00	1,500	1.50	450	3.50	1,050
7	Concrete masonry in tunnel	c. y.	2,000	9.50	19,000	8.00	16,000	10.50	21,000	10.00	20.000	11.60	23,200
8	Concrete masonry in open trenches	c. y.	1,800	8.50	15,300	7.00	12,600	7.50	13,500	7.75	13,950	9.60	17,280
9	Portland Cement	bbls.	6,000	2.10	12,600	1.80	10,800	1.75	10,500	1.80	10,800	2.13	12,780
10	Paving	c. y.	50	4.00	200	2.00	100	3.00	150	2.50	125	3.00	150
11	Gravel and broken stone,	c. y.	20	3.00	60	3.00	60	2.00	40	2.25	45	2.75	55
12	Ingot iron and steel for waterstops and reinforcing concrete	lbs.	17,000	0.07	1,190	0.05	850	0.035	595	0.04	680	0.05	850
13	Miscellaneous cast iron, wrought iron and steel,	lbs.	1,600	0.10	160	0.05	80	0.05	80	0.09	144	0.08	128
	Bond required, $60,000. Time, 16 months.				120,860		128,690		134,315		137,894		143,903

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TABLE XVII—continued.

Item	Description	Unit	Quan.	D. M. Rosser Eng. & Cont. Company, Kingston, Pa.		Coleman Bros. Boston, Mass.		Whiting-Turner Const. Co., Baltimore, Md.		Joseph McCabe, Providence, R. I.		Average Bid.
				Price	Amt.	Price	Amt.	Price	Amt.	Price	Amt.	Price
1	Earth excavation in open trenches	c. y.	20,000	0.75	15,000	1.10	22,000	1.87	37,400	0.90	18,000	0.95
2	Rock excavation in open trenches	c. y.	3,000	3.50	10,500	3.50	10,500	4.00	12,000	1.95	5,850	2.80
3	Refilling and embanking,	c.y.	10,000	0.65	6,500	0.50	5,000	0.50	5,000	0.75	7,500	0.48
4	Top-soil surfacing and grassing	c. y.	800	1.00	800	1.00	800	1.50	1,200	1.05	840	1.00
5	Excavating tunnel	lin. ft.	2,400	33.00	79,200	30.00	72,000	28.00	67,200	38.50	92.400	27.78
6	Dry packing in tunnel	c. y.	300	1.60	480	4.00	1,200	3.00	900	1.50	450	2.73
7	Concrete masonry in tunnel	c. y.	2,000	6.00	12,000	9.00	18,000	7.68	15,360	9.50	19,000	9.09
8	Concrete masonry in open trenches	c. y.	1,800	6.00	10,800	8.00	14,400	6.28	11,304	8.50	15,300	7.68
9	Portland Cement	bbls.	6,000	2.50	15,000	1.75	10,500	2.00	12,000	2.15	12,900	2.00
10	Paving	c. y.	50	4.00	200	3.00	150	10.00	500	2.00	100	3.72
11	Gravel and broken stone,	c. y.	20	2.00	40	2.00	40	2.00	40	1.85	37	2.32
12	Ingot iron and steel for waterstops and reinforcing concrete	lbs.	17,000	0.05	850	0.04	680	0.05	850	0.055	935	0.05
13	Miscellaneous cast iron, wrought iron and steel,	lbs.	1,600	0.03	48	0.08	128	0.10	160	0.055	88	0.07
	Bond required, $60,000. Time, 16 months.				151,418		155,398		163,914		173,400	

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TABLE XVIII.

CONTRACT 1-M—FURNISHING WATER METERS.

Canvass of Bids November 25, 1912.

Item	Description	No.	Hersey Manufacturing Co. 714 Tremont Temple, Boston, Mass.				National Meter Co., 84-86 Chambers St., New York City				Neptune Meter Co., 90 West St., New York City		Thomson Meter Co., 100-110 Bridge St., Brooklyn, N. Y.		Average
			Model F		Model FF		AA Nash		AAX Nash		Trident		Lambert		
			Price	Amt.	Price	Amt.	Price	Amt.	Price	Amt.	Price	Amt.	Price	Amt.	
1	5/8" meters	250	$5.78	$1,445.00	$6.60	$1,650	$ 7	$1,750	$ 8	$2,000	$ 8	$2,000	$ 8	$2,000	$ 7.28
2	3/4" meters	300	8.25	2,475.00	9.90	2,970	10	3,000	12	3,600	12	3,600	12	3,600	10.69
3	1" meters	75	11.55	866.25	13.20	990	14	1,050	16	1,200	16	1,200	16	1,200	14.46
				4,786.25		5,800		$5,800		$6,800		$6,800		$6,800	

Bond required, $2,000.00

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TABLE XIX.

INFORMATION *RE* METERS FURNISHED UNDER PROPOSALS OPENED NOVEMBER 25, 1912.
(Number of meters to be furnished, 250—⅝", 300—¾", and 75—1".)

Bidder	Hersey Manufacturing Company		National Meter Company		Neptune Meter Company	Thomson Meter Company
Name of meter	Model F	Model FF	AA Nash	AAX Nash	Trident	Lambert
(a) ⅝" complete..	$5.78	$6.60	$7.00	$8.00	$8.00	$8.00
by parts ..	8.06	8.06	7.63	8.53	11.50	9.85 (Star) 9.50 (Regular)
¾" complete..	8.25	9.90	10.00	12.00	12.00	12.00
by parts ..	11.17	11.17	9.69	11.29	15.20	12.76 (Star) 12.41 (Regular)
1" complete..	11.55	13.20	14.00	16.00	16.00	16.00
by parts ..	13.55	13.55	13.04	14.89	23.50	17.19 (Star) 16.84 (Regular)
(b) Number of revolutions of disc, piston or runner to register 1 cu. ft. of water						
⅝" meters....	480 per min.	308 per min.	380 per min.	268 per min.	356 per min.	295 per c. f.
¾" meters....	220 per min.	163 per min.	220 per min.	199 per min.	239 per min.	155 per c. f.
1" meters....	114 per min.	118 per min.	98 per min.	81 per min.	92 per min.	75 per c. f.
(c) Weight in pounds of each size.						
⅝" meters....	8 pounds	9 pounds	8-¾ pounds	13 pounds	10¼ pounds	11 pounds
¾" meters....	12 pounds	13 pounds	13-½ pounds	18 pounds	14¼ pounds	13¾ pounds
1" meters....	16 pounds	18 pounds	20 pounds	29 pounds	25 pounds	19¾ pounds

(*Continued on next page*)

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TABLE XIX—continued.

INFORMATION *RE* METERS FURNISHED UNDER PROPOSALS OPENED NOVEMBER 25, 1912.
(Number of meters to be furnished, 250—⅝", 300—¾", and 75—1".)

Bidder	Hersey Manufacturing Company		National Meter Company		Neptune Meter Company	Thomson Meter Company
Name of meter	Model F	Model FF	AA Nash	AAX Nash	Trident	Lambert
(d) Maximum proper rate of flow under 80 lbs. pressure.						
⅝" meters	2 c. f. min. or 7,500 lbs. per hr.	3 c. f. min. or 11250 lbs. per hr.	2 c. f. min. or 7500 lbs. per hr.	2 c. f. min. or 7500 lbs. per hr.	3 c. f. min. or 11250 lbs. per hr.	2 c. f. min. or 3750 lbs. per hr.§
¾" meters	4 c. f. min. or 15000 lbs. per hr.	5 c. f. min. or 18750 lbs. per hr.	4 c. f. min. or 15000 lbs. per hr.	4 c. f. min. or 15000 lbs. per hr.	5 c. f. min. or 18750 lbs. per hr.	4 c. f. min. or 7500 lbs. per hr.§
1" meters	8 c. f. min. or 29000 lbs. per hr.	9 c. f. min. or 30000 lbs. per hr.	8 c. f. min. or 30000 lbs. per hr.	8 c. f. min. or 33750 lbs. per hr.	9 c. f. min. or 33750 lbs. per hr.	8 c. f. min. or 15000 lbs. per hr.§
(e) Guaranteed Accuracy.						
1. At maximum proper rate of flow						
⅝" meters	98%	98%	98½%	98½%	98% to 100%	100%
¾" meters	98%	98%	98½%	98½%	98% to 100%	100%
1" meters	98%	98%	98½%	98½%	98% to 100%	100%
2. At minimum rate of flow.						
⅝" at rate of 208 lbs. hr.	98%	98%	98%	98%	98%	97%
¾" at rate of 416 lbs. hr.	98%	98%	98%	98%	98%	98%
1" at rate of 624 lbs. hr.	98%	98%	98%	98%	98%	98%
(f) Drop in pressure with maximum proper rate of flow under 80 lbs. pressure.						
⅝" meters	25 lbs. per sq. in.	25 lbs. per sq. in.	15 lbs. per sq. in.	14 lbs. per sq. in.	20 lbs. per sq. in.	7½ lbs. per sq. in.*
¾" meters	30 lbs. per sq. in.	30 lbs. per sq. in.	14 lbs. per sq. in.	18 lbs. per sq. in.	25 lbs. per sq. in.	22½ lbs. per sq. in.
1" meters	35 lbs. per sq. in.	35 lbs. per sq. in.	12 lbs. per sq. in.	24 lbs. per sq. in.	27 lbs. per sq. in.	30 lbs. per sq. in.

* This meter not in accord with specifications, no screen being included. § This figure inserted by bidder.

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REPORT

OF THE

Board of Fire Commissioners

FOR THE

Fiscal Year Ending March 31, 1913

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BOARD OF FIRE COMMISSIONERS

OFFICE: 36 PEARL STREET.

HORACE B. CLARK, *President.*

TERM EXPIRES 1916.

Residence, 160 Garden Street — Place of business, Hartford Courant

DANIEL READETT.

TERM EXPIRES 1916.

Residence, 8 Greenfield Extension — Place of Business, Union Station

SOLOMON YOUNGMAN.

TERM EXPIRES 1914.

Residence, 463 Farmington Avenue — Place of Business, 921 Main St.

CHARLES J. DILLON.

TERM EXPIRES 1914.

Residence, 69 Buckingham Street — Place of Business, 563 Main St.

SOLOMON ELSNER.

TERM EXPIRES 1915.

Residence, 277 Windsor Avenue — Place of Business, 902 Main St.

WILLIAM McKONE.

TERM EXPIRES 1915.

Residence, 174 Farmington Avenue. — Place of Business, 16 Wells St.

GEORGE A. REYNOLDS, *Clerk of Board.*

Residence, 15½ Vernon Street — Office, 36 Pearl Street

GEORGE W. PERRY, *Inspector of Wires.*

Residence, 1185 Broad Street — Office, 36 Pearl Street

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COMMITTEES

The following are the Committees appointed for the municipal year ending April 1, 1914, together with the items of expenditures under their jurisdictions:

BUILDINGS AND REPAIRS.

Commissioners Dillon and Elsner.

Real Estate and Repairs	Water and Ice.
Insurance on Buildings, etc.	Lighting
Furniture and Bedding	Washing

ENGINES.

Commissioners Readett and Youngman.

Apparatus and Repairs	Boiler Insurance
Coal and Wood for Engines	Machinery and Tools

CHEMICAL ENGINES, HOSE AND HOSE WAGONS.

Commissioners McKone and Clark.

Printing and Stationery	General Supplies
Hose and Repairs	Wagons and Trucks

HORSES.

Commissioners Elsner and Dillon.

New Horses	Horseshoeing
Harness and Repairs	Forage
Extra Horse Hire	Veterinary

TELEGRAPH AND FUEL.

Commissioners Youngman and Readett.

Coal for Heating.
Fire Alarm Reconstruction and Extension.
Telephones.
New Gongs and Fire Alarm Boxes.

UNIFORMS AND BADGES.

Commissioners Clark and McKone.

Uniforms and Badges.
Incidentals.

RULES AND DISCIPLINE.

Commissioners Readett and Youngman

HYDRANTS.

Commissioners Clark and Dillon

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REPORT

March 24th, 1913.

To the Honorable Court of Common Council:

We present herewith the forty-ninth annual report of the Fire Department for the fiscal year ending March 31, 1913:

The financial summary is as follows:—

Amount of regular appropriation 1912-1913	$259,350.00
Disbursements	259,350.00

NEW REAL ESTATE NO. 3.

Balance from previous year	4,806.51
Disbursements	461.22
Balance unexpended	4,345.29

RECEIPTS.

Donations	280.00
Sale of old horses	330.00
Sale of fertilizer	213.00
Sale of old automobiles	597,00
Sale of old materials	60.65
Total credit to Relief Fund	1,480.65
Services of department, East Hartford	345.00
Services of department, Bloomfield	80.00
Sale of new wire	20.40
Pay not taken	8.35
Work by machine shop	1.45
	$ 455.20

BUDGET FOR 1913-1914.

Our budget for the year 1913-1914 as presented to the Board of Finance provided for motorizing the department as well as for the usual yearly needs. A table showing our expenditures for the past year, our requests for the coming year and the amounts allowed is as follows:—

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	Expended 1912-1913	Request for 1913-1914	Allowed for 1913-1914
Payroll	$182,571.73	$221,000.00	$218,200.00
Engines and machine shop	13,532.69	87,500.00	12,225.00
Real estate and repairs	5,073.87	12,000.00	6,500.00
Furniture and bedding	673.90	1,500.00	1,200.00
Lighting	2,585.44	2,200.00	2,200.00
Water and ice	976.65	1,000.00	1,000.00
Washing	974.16	1,050.00	1,000.00
Rent	500.00	500.00	500.00
Horseshoeing	1,333.38	1,400.00	1,200.00
Extra horse hire	144.00	500.00	500.00
Forage	11,049.29	7,500.00	7,200.00
Harness and repairs	220.67	300.00	250.00
Veterinary	255.50	250.00	200.00
Hose and repairs	4,659.81	7,500.00	5,250.00
Printing and stationery	996.65	1,100.00	950.00
General supplies	3,430.83	4,500.00	3,250.00
Wagons and trucks	19,201.45	100,950.00	7,000.00
Coal for heating	4,900.00	4,750.00	4,750.00
Fire alarm	4,181.75	6,000.00	4,225.00
Telephones	1,070.80	1,150.00	1,150.00
Uniforms	230.24	250.00	250.00
Incidentals	787.19	1,050.00	1,000.00
Total	$259,350.00	$464,000.00	$280,000.00

A table showing what equipment was asked for, both to meet the ordinary needs of the department and to provide for complete motorization, and what equipment was allowed, follows:—

Ordinary needs.	Motorization.	Allowed.
Two combination motor pumps and hose wagons.	Power attachments for nine regular steamers and one spare.	One combination motor pump and hose wagon.
	7 combination hose and chemicals.	None.
Two tractors.	One tractor.	One tractor.
One new truck.	Two new trucks.	None.
3 vehicles, for inspector of wires, fire marshal and master mechanic.	4 vehicles for fire alarm and general use.	None.

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BUILDINGS.

More or less repair work was, as usual, necessary in every station; the most extensive work was at No. 1, in strengthening the floor to hold the large tractor engine, and at No. 4, in strengthening the floor to hold the propeller. It was also necessary to strengthen the floor under engine No. 8. Other special repairs were made as follows:—

Stall work at Nos. 5, 6, 7, 8, 11, 12, 14, 15 and Truck No. 1.
Plumbing work at Nos. 1, 2, 4, 5, 6, 7 and 15.
Roofs at Nos. 2, 4, 8, 10, 12 and shed at No. 1.
Lighting changes at Nos. 1, 2, 4, 7 and 15.
Floors at Nos. 6, 7 and Truck No. 1.
Doors at Nos. 3, 6 and 12.
Chimneys at Nos. 1 and 10.

Many of the stations are in great need of painting, roof work and miscellaneous minor repairs, which, while not very extensive in any individual case, would total an amount considerably over what has been allowed for repair work in recent years. We regret that our request for $12,000.00 for this purpose was cut to $6,500.00; as considerable which ought to be done will have to be put off longer, with the result that conditions will grow worse, and repairs, when they are made, will be more extensive than if they could be attended to this coming year.

The old station of No. 3 on Front street, abandoned when the company moved to Market street in March, 1912, was in May turned over to the public bath house committee and is no longer under this department's care.

The failure of all headquarters building plans for two years and the consequent overcrowding of No. 3's new station, through the necessity of locating two chiefs there and keeping them there at least two years more, has already compelled alterations in that building, after only one year's use. The barn, empty of horses since the installation of a motor hose wagon, is being made over into a lounging room for the men, the original lounging room is being cut into general and private offices for the chief, the captain's office, now used by the chief, will be made available for the company officers and the barn loft will be converted into four more bunk rooms.

A noticeable reduction in the lighting bills has been accomplished by the installation in several houses of tungsten lights, already more than enough to meet the cost of the new lamps and of various necessary wiring changes. Further in-

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stallation of these lights is planned for the coming year. The reduction in six stations for seven months was over $400.

ENGINES.

Engine No. 4 was overhauled in the department shops, but nothing beyond ordinary minor repairs was necessary for any of the other engines. All will be re-valved in the coming year except No. 4. An extra first size Clapp and Jones steamer, drawn by an American-LaFrance gas-electric, four-wheel drive tractor, ordered for delivery early in the year, was not received until December 3. Road tests were satisfactorily met, as far as the motive power was concerned, on December 9, and at a second trial, December 12, the engine met the guaranteed capacity test of 1,100 gallons per minute drafting water. The contract price was $9,000.00; $348.00 was paid for rubber tires on the rear wheels; but on account of the delay in delivery the company granted a reduction of $112.00, being the estimated cost of maintaining a pair of horses for the old steamer from August 1 to acceptance of the new machine; making the net cost of the outfit $9,236.00. The machine was put in commission at engine company No. 1 on December 31, and was called out that night for the first time. It has responded promptly to every alarm and difficulties at first experienced in backing into the house are being overcome as the men become more familiar in handling it. The tractor is so constructed that it can be used on any other piece of apparatus and when a more suitable type for a steam engine can be purchased for the big steamer this tractor should be placed under an aerial truck, which by reason of the rear tiller is particularly well adapted for such service.

The small Amoskeag engine replaced at No. 1 by the tractor engine was shifted on January 6, 1913, to engine company No. 15 and the old single pump "Harp Tank" engine which has been in use there temporarily since February 1, 1912, was taken out of active service. Engine No. 5, Amoskeag, which has been in service since 1872, should have been replaced during the year, an allowance having been made in the budget for that purpose, but late delivery of the tractor engine, combined with high prices for food stuffs, which caused a shortage of $3,500.00 in the forage account, led the Finance Board, when an extra allowance for the forage account was asked for in November, to transfer the funds from the engine account and not grant an extra appropriation, making the purchase of a new engine impossible this year. As

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there is no reliable spare steamer and as only one new pumping engine has been provided for in the new budget, to replace No. 5, the city will continue for at least another season to have no reliable spare engine.

A spark arrestor, to render the propellers less of a nuisance on the way to and from fires, was tried on No. 3 on December 5, with results by no means entirely satisfactory. It has since been put into regular use on No. 3, but not long enough yet to judge of its success.

MACHINE SHOP.

An 18-inch, 12-foot bed, Hendy lathe, costing $738.00, with all attachments, $812.50; a Le Blond tool grinder and cutter, costing $425.00, and a Larkin hydraulic expander, with fittings for setting couplings of all sizes from ¾-inch to 4½-inch, costing $215.00, have been added to the equipment of the department machine shop in engine house No. 2 and more and better work than ever has been turned out this year. The equipment made includes six combination engine sets, by which, without interfering with the flow of water, steamers can be put to work to supply full pressure to a hose line previously supplied only by a hydrant, 3 two-way deluge sets, 6 hose hoists, 14 double hydrant gates, 32 nozzles and 37 special couplings. Repairs were made or couplings set on 2,090 feet of hose, being 200 feet chemical, 950 feet 2½-inch, 800 feet 3-inch, 140 feet 3½-inch. In addition a great amount of miscellaneous repair work has been done and, as usual, the shop proved invaluable and a money saver besides. Engineer and Mechanic Charles A. Cutler, who has been in charge of the shop, has been promoted to the new position of master mechanic, dating from April 1st, 1913, and will have general supervision of all repair work.

AUTO APPARATUS.

Three new model, double chain drive Pope-Hartford combination chemical and hose cars, fitted with cushion tires, were received and put into commission in the early fall. One car was installed at engine house No. 1, Main street, on September 14, 1912; another at engine house No. 2, Windsor avenue, on October 25, 1912, and the third at engine house No. 5, on Sigourney street, on October 12, 1912. The car placed at No. 1's house last year was fitted with new tires, looked over at the factory, varnished and shifted to No. 10's house; the automobile service in that house, however, dated

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from September 22, as one of the new cars was installed there temporarily on that date. Squad "A," after two years' continuous service in answering every alarm, was overhauled and repainted while one of the new cars was used temporarily in its place. The old Knox car which has been in service with No. 2 since 1908, was overhauled at the factory and shifted to engine company No. 3 on Market and Temple streets. It was put in service there January 29, 1913, doing away with all horses at that station.

Rebuilt Pope-Hartford runabouts were bought for Chief Loomis and for Deputy Chief Dahill, and were put in service in May, replacing their smaller, less powerful and less serviceable machines. The two discarded cars and the car first bought for Chief Krug in 1909 were sold for a total of $597.00, and that amount turned over to the Firemen's Relief Fund. A second hand Pope-Hartford car was purchased in July, 1912, for the sum of $375.00, and has been used since as a practice car to train drivers for the regular hose cars and also as a spare car for the chiefs. This has proved a very useful acquisition, as it has saved breaking in men on the expensive fire cars; has been available for use by department officers during the repairs on their machines, and during the drill school season was kept at the drill grounds to transport men in case of an alarm. In the coming year it will be largely used by the master mechanic, as no appropriation was made in the new budget for a car for him.

The superiority of motor apparatus over horse drawn apparatus of the same character has been increasingly demonstrated with every piece of new motor equipment added during the year. With a motor squad car answering every box call and a good many still alarms and with five combination chemical and hose autos also in service there have been but three occasions when any of these cars had to stop on the road when on the way to a fire. Squad "A" answered every call without a hitch. The three causes of stopping were where one machine skidded against a curb and smashed a wheel, one was stalled by engine trouble and one was delayed only a short time by a flooding carburator. In addition there was one case of delayed start and two of running slower than usual on account of a spark plug trouble. To compare with the three actual road stops there were twenty stops of horse drawn apparatus. The occasions were as follows:—

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Date 1912	Box	Horse apparatus	Auto apparatus	Cause.
April 29	91	1	0	Horse Truck No. 1 fell
June 19	26	1	0	Horse Truck No. 3 fell
June 26	82	1	0	Horse engine No. 2 fell
June 30	25	1	0	Horse Truck No. 3 fell
July 3	92	0	1	No. 2 skidded; wheel smashed
July 4	241	1	0	Horse Truck No. 3 fell
July 5	15	1	0	Horse Engine No. 5 fell
Aug. 2	132	2	0	Horses Engine No. 5 and Hose No. 5 fell
Aug. 11	32	1	0	Horse Truck No. 3 fell
Sept. 1	252	2	0	Horses Truck No. 3 and Hose No. 4 fell
Oct. 13	614	1	0	Horse No. 14 fell
Oct. 18	8	1	0	Horse Hose No. 7 fell
Nov. 5	315	1	0	Horse Truck No. 1 fell
Nov. 6	35	1	0	Horse Truck No. 1 fell
Nov. 7	65	1	0	Horse No. 12 fell
Nov. 15	38	1	0	Horse Truck No. 3 fell
Dec. 31	28	1	0	Horse Truck No. 3 fell
1913				
Jan. 1	251	1	0	Horse Hose No. 4 fell
Jan. 30	12	0	1	Hose No. 3 stalled; engine trouble
Feb. 26	413	0	1	Hose No. 1; flooded carburetor
Mar. 4	631	1	0	Horse Truck No. 4 fell
Totals		20	3	

WAGONS AND TRUCKS.

As little money as possible has been laid out on the horse drawn hose wagons in the expectation of their early replacement by automobile equipment and as fast as they have been replaced by automobiles the more serviceable vehicles have been shifted to other stations and less serviceable wagons put out of service. No 1's old wagon is in use at No. 7, those of Nos. 3, 8 and 14 are in reserve with No. 3's lacking two tires. No. 7's is being used by engine company No. 5 in place of an exercise wagon. No. 10's has been shifted to No. 8 and No. 5's is being used by No. 14 as lighter and easier to handle on the Blue Hills avenue grades.

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The exercise wagons are gradually deteriorating, particularly that at No. 15, where there is no shed, but where none will be needed when the company is motorized. Minor repairs, replacing a tire on Truck No. 3, damaged in an accident, replacing part of an extension ladder burned at a fire, and the revarnishing of ladders constitute all the work done on the hook and ladder trucks.

HOSE.

Hose was purchased as follows: 3-inch, 2,050 feet specification hose at $1.09, for No. 1 and No. 2; 2½-inch, 2,100 feet specification hose, at 73c, of which 1,950 feet were assigned to No. 8, and 550 feet of Bi-lateral construction hose, ordered for No. 4 but not yet delivered; 200 feet 3½-inch for engine suctions and 100 feet for deluge sets, at $1.60. The amount of the 2½-inch hose condemned or destroyed, including 600 feet burned in East Hartford, was 1,050 feet. The amount of hose needed in the coming year is 8,000 feet, but the appropriation allowed is sufficient only for the purchase of probably not more than three-quarters of that amount, with the result that we will either have to let some company get along with unreliable hose or ask for an extra appropriation.

HORSES.

The number of horses in service is 55. One, injured in East Hartford, was replaced by the Meadow Fire District and three were sold, for a total of $335.00. In the early part of the year sickness and accidents put so many horses out of service that extra horses had to be hired, an expense which we usually have to meet only in times of heavy snow. The prices for forage were so very high,—in some cases 80 to 90 per cent. over estimates—and the delivery of automobile equipment to replace horses so much later than expected that an extra allowance of $3,500.00 was required for the forage account late in the year, the amount being secured by a transfer from the engine account.

FIRE ALARM.

The fire alarm system has been kept up to as high a point of efficiency as is permitted to an automatic system with an inadequate and unsafe headquarters building, necessary repairs have been made as required and as many new boxes installed as the funds available would permit. The new auto-

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matic repeater, ordered last year, was put into service May 14, and the old one sent back to the factory in exchange for a new punch register, which was located in No. 4's house. New boxes located were:

562 Campfield Avenue and Bushnell Street.
472 Broad and Ward Streets.
634 Sisson Avenue and Boulevard.
744 Blue Hills Avenue and Harold Street.
754 Oakland Terrace and Greenfield Street.
755 Lenox and Greenfield Streets.
261 Commerce and Potter Streets.
654 Underwood Typewriter Company, (Private).
172 Chapel and Ann Streets.

Keyless doors were provided for Box 361 at Capitol avenue and Trinity street and Box 34 at Trumbull and Jewell streets.

Wires have been changed from pole to underground on Vine street between Albany avenue and Capen street; Webster street, from Washington street to Maple avenue; Maple avenue, from Bond street to Barker street; east on Barker street to Campfield avenue; Vernon street, from Washington street to Broad street; Sheldon street, from Union to Commerce streets. New underground work was put in on Potter street from Front to Mechanic streets, and on Ann street, from Allyn to Chapel streets. Old underground wiring was replaced on Washington street, between Park and Vernon streets. New wires were laid on Campfield avenue, to Bushnell street, for new box No. 562; on Broad street, from Madison street to Ward street, for new box No. 472; on Sisson avenue, from No. 11's house to the Boulevard for new box No. 634; Blue Hills avenue, from Tower avenue to Harold street, for new box No. 744; on Greenfield street, from Vine street to Blue Hills avenue, for boxes Nos. 755 at Lenox street, and 754 at Oakland terrace; on Potter street, from Mechanic street to Commerce street for box No. 261. Underground wires were laid through Riverside and Woodbine streets for box No. 654.

The work planned for the coming year includes changing the system over to quick time, changing wiring on New Britain avenue, between Broad and Mountain streets, from overhead to underground, and placing new boxes at New Britain and Hillside avenues and Ashley and Atwood street.

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HYDRANTS AND WATER SUPPLY.

The allowance for hydrant work for the year was $10,450, an increase over the year before in order to provide for a large number of installations in the South End, and for others on new main pipe work, laid out by the water department for the conflagration area. All of the water department plans were not carried out, however, and the number of hydrant installations was not as great as planned for. In the South End, 54 new 4-way hydrants all with 6-inch laterals, were installed and one old hydrant was renewed with a 4-way; in the conflagration area, two new 4-way hydrants were installed on Morgan street and seven new 4-way and steamer with 8-inch laterals on Grove street, Commerce and Potter streets, east of Front street. In the same area one hydrant was renewed. Elsewhere in the city, principally on extensions of mains, 38 new hydrants were installed and five old ones replaced. Most of the work in the South End was done along Wethersfield and Franklin avenues, where large new mains were laid, and on all cross streets south of, and including Bond street, in which district hydrants were put in about 250 feet apart, in order to permit effective use of direct hydrant streams without the aid of steamers. The conditions in the South End remain, however, unsatisfactory, and on account of the long unbroken blocks of 6-inch piping will so continue until either cross streets are laid out and the small piping strengthened by intersecting mains, or all of the 6-inch piping is replaced by larger.

The installations on Commerce, Potter and Grove streets complete the hydrant work laid out two years ago for Arch street, Front street south of State, and the district south of State, east of Front and north of the Park River. The water supply there, which used to be insufficient for even a few engines, should now be ample for both steamer and direct hydrant streams.

The streets where hydrant conditions have been improved are the following:—

South End—Bushnell, Morris, Wethersfield avenue, Campfield avenue, Otis, Franklin avenue, Barker, Adelaide, Bliss, Brown, Roosevelt, Preston, Annawan, Dean, Bond, Bodwell, South, Standish, Victoria Road and Fenwick street.

Conflagration Area—Morgan, Grove, Potter and Commerce streets.

Elsewhere—Kent, Love Lane, Blue Hills avenue, Newton, Wilson, Park terrace, Ward place, Essex, Cedar, Cabot,

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Affleck, Squire, Oak, Edgewood, Capitol avenue extension, Hawthorne, Arbor and Forest streets.

Hydrant tests were conducted as follows:

April 29	Bushnell street.
May 2	Holcomb street pipe line.
May 2	Prospect Hill pipe line.
May 4	State capitol grounds.
July 7	Church and Spruce streets.
July 20	Bond street and Franklin avenue.

The test on the Capitol grounds showed unsatisfactory conditions, the three hydrants available delivering only about one-half of the capacity of the steamers which would be called to the building on a first alarm.

We regret that so small an allowance as $5,770.00 has been granted for the coming year, as the Water department is planning a large amount of new work and our estimate for hydrant needs for the year was over $8,000.00. The installation of hydrants has been considered a minor matter in the preparation of the city budget; whereas, in our estimation, it is one of the most important of fire protection expenditures, as numerous and large hydrants, well supplied with water, are the very fundamentals of a good fire service.

FIRE RECORD.

The number of fires for the year was about the same as the year previous, there were less dangerous ones and none for which a second alarm was ordered. On one occasion, a second alarm was turned in by some unknown and unauthorized person. The more important fires were:—

1912

June 1, Box 38, 12:25 p. m., second alarm (unauthorized) 12:33 p. m., Buick Garage, No. 356 Main street.

June 29, Box 12, 6:27 a. m., Central New England Freight Depot, Spruce street.

October 21, Box 39, 5:31 p. m., Andrews and Peck woodworking shop, Charter Oak avenue.

November 17, Box 39, 6:15 a. m., buildings occupied by Indian Oil Company, Huyshope and Wawarme avenues.

December 1, Box 27, 4:37 p. m., Gray Telephone Pay Station Company, rear No. 64 Asylum street.

December 11, Box 32, 8:10 p. m., Hartford Market Company, No. 613 Main street.

December 13, Box 24, 2:15 a. m., Smith, Northam & Co., No. 129 State street.

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Three women and one man were burned to death or suffocated by small fires on May 25, September 28, November 15, 1912, and January 20, 1913.

The fire at the Indian Oil Company's plant on November 17 caused losses which could have been avoided if recommendations of this board, for increased water supply at that point, had been followed out. Only one steamer furnishing two small streams could be set to work. The weakness of the water supply had been brought to the attention of the Water Board considerably more than a year before, and several times later, but nothing was done previous to the fire, nor has anything been done since to better the conditions.

Calls for assistance out of town were received and service rendered, in every case with official recognition, as follows:—

1912.

April 12 — 12:25 a. m., East Hartford Meadow District; engine companies 6 and 7 in service. One hose horse of No. 6 badly burned and 600 feet of hose destroyed or damaged. Horse replaced and city reimbursed by District for all losses; total expenses to the district $561.50.

June 29 — 3:00 p. m., town of Wethersfield; combination No. 10 sent; contribution of $25.00 from selectmen.

July 25 — 4:20 p. m., town of Bloomfield; to extinguish ruins of tobacco warehouse burned in morning; spare engine and spare hose wagon sent; town paid $80.00.

Sept. 8 — 4:45 p. m., No. 11 Levesque avenue, West Hartford; No. 12 hose wagon in service; contribution of $50.00 from selectmen.

Sept. 23 — 11:30 p. m., No. 405 Prospect avenue, East Side Fire District of West Hartford; No. 12 hose wagon in service. Contribution of $50.00 from district.

Oct. 15 — 5:30 p. m., call from State Sanitorium, Newington, for fire in adjoining premises; engine company No. 15 in service. Contribution of $100.00 from State Tuberculosis Commission.

Feb. 1 — 11:15 a. m., No. 1 Sycamore Lane, East Side Fire District of West Hartford; engine company No. 12 in service. Contribution of $50.00 from District.

In the majority of cases when regular apparatus was sent out of town, spare apparatus was put in service in its place.

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DRILL SCHOOL.

More drill work than ever was done during the year, both at the drill school grounds and at company stations, and a new feature, competitive company drill, was inaugurated. Deputy Chief John C. Moran, under whose charge the school was started and conducted until it has become a recognized invaluable adjunct to the department, was relieved of the individual instruction work upon being promoted to be first deputy chief, and Captain Robert H. Ramsden of No. 4, who with Deputy Chief Moran went through the New York school, was detailed in charge, assisted by Lieutenant Keron J. Finn of No. 6. Fifteen probationary men and 100 regulars, including twelve captains and thirteen lieutenants, attended the school. Every probationer, every officer and all but five privates won a first class rating. All men who have won and who have maintained a first class rating are allowed to wear chevrons on the sleeves.

At the end of the individual instruction season in the fall company drill was taken up and carried through under the supervision of Deputy Chief Moran and Captain Ramsden together. As a stimulas to the work and also in recognition of the interest being taken in all forms of drill work throughout the better part of the department, the members of the Board of Fire Commissioners, acting individually, offered a special prize cup for the company making the best record in company work at the school, the cup to become the permanent possession of the company winning it three times. Several weeks in advance of any company work a bulletin notice was sent to every station explaining in detail just what would be required and no company had an advantage over another in this respect. Every company took part in the contest; the engine and hose companies reported at the tower with their regular hose wagon equipment, and Squad "A" and the four truck companies used a spare hose wagon, fully equipped. Captain Ramsden was the active supervisor, while Deputy Chief Moran timed the work and noted any mistakes. The result showed a highly gratifying improvement over the work of the year before and the record of the truck companies, which do not ordinarily have to handle hose, was particularly good when that fact is considered. In working out the rating it was necessary to make allowance for differences in the number of men in the various companies and to impose penalties for things done not in accordance with the bulletined program. Out of twenty-one operations, which all companies went through, the companies were considered to

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be on an equal footing in all except three, operations Nos. 3, 5 and 7, in which the number of men made a difference. A scheme of handicapping was followed, companies of five men working being taken as a basis and all companies having more than five men being handicapped by adding to their actual time the penalties imposed and the sum, in minutes and seconds, of:—Time of operations Nos. 3, 5 and 7, divided by the number of men, multiplied by the number of men in excess of five. Squad "A" won the cup by a matter of a few seconds over No. 4, with two other companies close competitors.

SALARIES.

The members of the department of all grades below deputy chief and assistant superintendent of fire alarm presented a petition for salary increase on November 9, 1912, which was acted upon November 22, 1912. Majority and minority recommendations were presented for your consideration; the former recommending an increase for all members of the department from chief down, and the latter recommending increases only for first deputy chief, superintendent of fire alarm, assistant superintendent of fire alarm, master mechanic and stenographer. The majority recommendation was adopted. With the department roll complete, the increase will involve an added fixed expense of over $33,000.00.

HEADQUARTERS.

We brought up this year again the need of a new headquarters station and recommended the purchase of land of Nevels Brothers on Main street, adjoining on the south the premises of engine company No. 1, and two John street properties in the rear, Nos. 32 and 36, owned by Edward F. O'Brien and Mrs. Catherine Mahoney. In connection with what the city already owned this would have made available for present and future development a plot 96 feet on Main street, 90 feet on John street and 335 feet deep. The land was held at about $40,000.00. We asked for $200,000.00 to provide for the site for a four-story, four-entrance, fireproof building and for a central office fire alarm system, and the adverse action upon the proposition is much to be regretted. We have been given to understand that while the financial condition of the city is given as the only cause of the adverse action, the location is considered by some officials too far from the center for a headquarters station. That agrees with

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our preferences, but when we presented plans last year for a building in the center, objection was raised to the expense and that plan was killed. Central property will, of course, cost more than a site somewhat removed from City Hall Square, while a less expensive site outside the business district will equally of course not be in the center. With a central property plan killed one year because of the expense and a less expensive plan killed the next year because the property wasn't central, the city hasn't made much progress towards a headquarters, but has only added to difficulties which we will have to encounter in the coming year in working up some new plan.

DEPARTMENT DETAILS.

The retirement of Chief Louis Krug, recorded in our last report, took effect formally May 1, 1912. Changes due to his retirement and other promotions, appointments, transfers, etc., from and after April 1, 1912, were: Retirements, 1; promotions, 10; transfers, 18; substitutes appointed regulars, 12; appointments to substitute roll, 20; resigned, regulars, 4; substitutes, 3; died, 2; discharged, regulars, 1; substitutes, 11. The discipline in general was good, the number of suspensions being 4; three regulars and one substitute. Most of the substitutes dropped were men who declined to make application for appointment or to accept appointment, when given opportunity to do so.

Greater authority has been given to department officials along several lines. The chief now has exclusive power to make transfers and captains may grant members of their companies more extended leave of absence. Since June 1, regular desk watch has been maintained in all stations throughout the twenty-four hours.

The office hours at the Board's rooms have been made 8:30 a. m. to 4:30 p. m., except Saturdays, when they are 8:30 to 12:00.

The annual inspection of the department by the Mayor, Commissioners and other city officials was conducted December 10, and a number of officials who could not make the trip that day visited a part of the stations the next day.

There were no fatal accidents to members of the department, but over thirty men suffered injuries of one sort or another sufficient to cause them to lose time from duty, for which, however, they received full pay. The most serious accident was to Hoseman Edward J. Devanney of Squad "A," whose leg was broken December 31, and who is still off duty.

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More than twenty men were off duty on account of sickness and received half pay allowance. The amount paid out in full pay cases was $1,559.91 and in half pay cases $860.29 a total of $2,420.20, but as in some instances it was necessary to fill the place of an absent man with a substitute the cost to the city was considerably in excess of the figure given.

A new running card was put into effect in the late fall, providing improved service in many parts of the city due to the adding of three motor wagons and the change of No. 15 to a steamer company.

Other service improvements may be summarized as follows:—

One extra first size steam fire engine; tractor drawn.

Engine No. 1 Amoskeag put in commission at engine company No. 15.

Three combination chemical and hose autos, Nos. 1, 2 and 5.

Combination company No. 10 motorized.

Engine company No. 3 motorized.

Engine company No. 1 motorized.

Two (2) chiefs' cars.

One instruction car.

Three 2-way deluge sets.

Fourteen double hydrant gates.

Six hose hoists.

Thirty-seven special couplings.

Six special combination engine and hydrant sets.

One wagon pipe for No. 2.

Four distributing nozzles; one for each truck.

Equipping trucks and wagons with scaling ladders completed.

Smoke helmet carried on Squad "A."

Marine torches for all trucks.

Six fire alarm boxes.

Sixteen-inch (16-inch) lathe.

Tool grinder and cutter.

Larkin hose expander.

EMERGENCY COUPLINGS.

As an emergency measure, we have had prepared in the department machine shop a set of thirty-three (33) special couplings so that if apparatus from other places is ever called here for a conflagration, diversity in hose couplings will not prove a hindrance, but all engines may be enabled to make use of our hydrants.

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We have provided one coupling for every engine and two for every hose wagon that might be sent here. These couplings have all been marked, so that they may not be confused and as a further precaution they have all been nickel plated so that they can be easily picked out. In addition we have three patent connections for any apparatus not otherwise specially provided for. All of these are kept in a special case.

Apparatus from such places as New Britain, Rockville, Waterbury and South Manchester can connect to Hartford hydrants without trouble so no special couplings are necessary for them. The places for which special provision is made, are the following:—

Holyoke, Thompsonville, Derby, West Haven, Norwich, New London, New Haven, Bridgeport, Worcester, Bristol, Winsted.

The cost of having these couplings prepared was very small, and the possession of them relieves us from any feeling of uncertainty as to what would happen if the city did have to meet an emergency so great that outside help would have to be called in.

MUTUAL AID.

The metropolitan district idea, which has had quite a little public discussion during the year, is a matter which has interested this department in an unofficial way.

The larger community is often called on to help its smaller neighbor fight a fire and Hartford in the last year has sent apparatus three times over the line into West Hartford, once into East Hartford, once into Wethersfield, and once into the town of Newington. But if Hartford ever needs help in its turn, the best that these places can send will be men and hose and when all of Hartford's engines are at work there will not be water pressure enough left, in all probability, for effective work with only hydrant streams, hence to carry out the metropolitan district idea as things now are would simply mean, as far as the fire service was concerned, enlarging an already expensive city department so as to provide sufficient men and machinery to take care of fires outside the city proper without weakening the service within it.

If, however, the metropolitan district idea can be carried further than making Hartford a sort of central fire station for these towns whose borders touch Hartford's, and communities at some distance be interested in it; then something can

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be accomplished which will have widely beneficial results. Boston and neighboring communities have united in a mutual protection scheme, with Boston the center, and something along the same lines could be worked out for Hartford and its neighboring communities for as roads are improved and automobile apparatus, particularly motor pumps, brought into more and more general use the amount of territory which can be protected against fire by apparatus starting from any given point will be greatly increased. Meriden already has a motor car with a pump operated by the motive power engine and with a body containing 1,000 feet of hose. Hartford is to get one this season. Suppose other communities such as West Hartford, New Britain, Plainville and Bristol to the west, Windsor, Windsor Locks and Thompsonville to the north, East Hartford, South Manchester and Rockville to the east, Wethersfield, Middletown and Meriden to the south, could reach an agreement that in future purchases of fire apparatus each would get one or more motor pumps, the number to vary according to the population, or according to the square miles to be covered, or according to any other ratio that might be agreed upon. The larger communities would naturally be the first ones to get the motor pumps, each thereby strengthening its own fire service and becoming a central fire station for the smaller communities surrounding it. Gradually the others, first one and then another would acquire machines until in time there might be eight or ten such pumpers scattered only a few miles apart along a line from Thompsonville to Meriden and along a similar line from Rockville to Bristol. Any fire stricken community within the district could get its first help within ten or fifteen minutes and as much more as necessary at short intervals thereafter. The conflagration danger, that the fire officials of every city have always with them as a source of greater or less anxiety, would be greatly lessened in any city in such a mutual aid scheme and the big fire danger, which correspondingly smaller places have to face now, would cease to greatly worry officials who know that through their locality's having put in service perhaps only a single motor pump, which could be used to help a neighbor, they could expect six times as many motor pumps to hurry to their aid if the necessity arose. A mutual aid scheme bringing about such a condition would have our hearty approval, but a metropolitan district scheme alone would not.

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BUILDING INSPECTION.

The department regulations have for some time provided for regular inspections by the officers and men of all business and public structures within each company's district, but inability to get any authority to remedy such bad conditions as might be found has so acted against any definite accomplishment from such inspections that the regulations have never been carried out to any great extent.

It was in order to give us the necessary authority that we tried to get the office of fire marshal shifted over to this department more than a year ago, and the failure of that move resulted in little or no inspection work during the past year, as we were led to understand that it would be necessary to go to the legislature to get the power we need.

After this matter again met with failure through disagreeing action in the Court of Common Council, it was decided to go ahead anyway and do the best we could by suggestion and request, even though we had only moral and not legal force behind us. We have consequently had the necessary blanks prepared and except when the drill school and the vacation season reduce the available working force so that men cannot be spared for special duty, we hope to have inspections systematically made and do the best we can under the circumstances.

In other cities where this work is done and where the department has authority to remedy bad conditions, much good has resulted and it is greatly to be regretted that while spending so much for fire extinguishing, the city should be unwilling to take the necessary steps toward accomplishing a little something along fire prevention lines.

INSURANCE RATES.

Two years ago we recommended that, because of improvements in the fire and water service, efforts be made to secure a reduction in fire insurance rates. Nothing was done in the year following and the reduction obtained this year, of 20 per cent. on certain dwelling house property and nothing at all on business property, strikes us as an inadequate return for the improvements the city has put through. In the business section east of Union Station, south of the Tunnel and north of Park River almost every foot of small piping has been replaced with large, small hydrants fit for one steamer only have been replaced with large ones, additional larger ones have been installed all capable of supplying at

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least two engines; small steamers have been replaced by large ones; an additional truck company, a water tower, more men, auto wagons, and larger hose supply have been provided; the assignment of companies to alarms has been bettered; various minor equipment has been put in service, and in our estimation the fire protection has increased more than the risks, but yet in this section no reduction at all is granted and instead the underwriters' committee recommend that the city do still more yet.

Until the recent rate reduction took effect owners of frame dwelling house property in Hartford, with all its auto equipment, all its engines and all its expensive department, paid higher rates than prevailed on exactly the same property in a neighboring community which has not a single piece of pumping apparatus, has less water pressure and has only a volunteer department. On brick dwelling house property, owners in Hartford paid exactly the same rate as prevailed in this other community. For the purpose of a further comparison, which becomes the more interesting the further it is considered, we present a table showing the fire service conditions in the two places:

HARTFORD.		TOWN OF X.
Department	Full paid	Volunteer
Street alarm boxes	161	3
Permanent men	157	0
Highest water pressure	95	60
Engines	11	0
Hose wagons	13	3*
Chemical outfits	14	0
Auto apparatus	7	0
Ladder trucks	4	0

*Includes two hand reels.

This reduction gives Hartford slightly better rates now on brick dwelling property and nothing better than equal rates on frame dwelling property.

A reduction in the business section as well as in the residential section would have been more in keeping with the generally improved conditions here than one carefully confined to the sections of the city furnishing the least return in premiums. We hope the matter will not be allowed to rest where it is, but that a further effort will be made for a more general reduction and a binding understanding that certain specific reductions will follow certain specific improvements so that in the future it will not be quite so much a case of give on one side and take on the other.

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NEXT YEAR AND TO COME.

In view of all the things that remain to be done in the department we regret that more could not have been provided for in the appropriation for the coming year. We asked for nothing that is not bound to come and the longer these things are put off the longer the city goes without the full efficiency that it could get out of its fire department.

Over and above the ordinary expenses of department maintenance, the city will have to lay out on the fire department, sooner or later, a sum in the neighborhood of $400,000. With this certainty in mind we presented to you, either directly by formal communication, or indirectly through the Board of Finance, the most urgent of these matters, part to be carried out in the coming year and part extending over into the year to come. There yet remained much to be brought up for consideration for the fiscal years immediately following.

We asked for a new central station, for complete motorizing of the department, for certain new equipment and for the replacement of certain old equipment.

The new station was to be built in the coming year and to provide a location for a new central office fire alarm system, the present system being outgrown. The new station was to take the place of at least two old and inadequate houses. The plan has been killed and we are now, at best, apparently two and one-half years away from getting a new alarm system or from getting rid of any more inadequate houses.

Motorizing we advocated as a very great means of increasing the efficiency and lessening the maintenance expense of the department. It would mean much more generally prompt response of apparatus, give us for fire duty all the men now detailed as drivers, and end at once an annual expense of over $10,000.00 due to the use of horses. The idea of bonding the city for this improvement did not find favor and as we were advised that we could not hope for both central station and motorizing, we recommended cutting out motorizing. As it now turns out, the city gets neither motorizing nor central station.

When the regular budget was taken up we explained that there are two steam engines not reliable and one other dangerously close to that class. No. 5, in service since 1872, was to have been replaced in the present year, but financial conditions prevented. Our only spare horse engines are the single pump "Harp Tank," the first steamer Hartford ever

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had, dating from 1861, and old No. 6, dating from 1868 and discarded in 1907. The spare propellor is the other one referred to, dating from 1876. To meet this situation we asked for two motor pumps, combining engine and hose wagon, planning with one to replace No. 5 engine and with the other to replace some other steamer and thus provide a reliable spare machine. The cost of two motor pumps was also shown to be about $10,000.00 cheaper than buying two new steam engines, buying tractors for them, and buying auto hose wagons to be operated with them. Incidentally, each, by taking the place of both engine and wagon, would replace four or five horses, avoid maintaining steam 365 days in the year, and increase the fire fighting force in each station by two or three men, drivers and engine men. Only one was allowed with the result that as we hope to be able to trade in an old steamer in part payment, we will have to make a guess as to which unreliable engine is the least bad and use it for spare—and that, too, in a year when all steamers are to be overhauled and revalved, and when it is more than ever important that there should be a good spare machine. The auto pump will probably be located at No. 6, and No. 6 engine be shifted to No. 5.

As the greatest weakness in the fire service is in the line of hook and ladder trucks we asked for tractors for the two down-town aerials and for one new truck to be located in No. 12's house in Smith street to cover the west side and Parkville sections where the truck service is the poorest. This is a case of where the old conditions of horse drawn apparatus would require a new house and new crew of men, but where, under present day possibilities of motor apparatus, no new building, no additional appointment of men, nothing but the asked-for second motor pump and truck and some minor alterations in the engine house would have been needed to give the city at one step a new truck company and a spare steamer. The truck was not allowed, however, and only one tractor, which will put up to us another choice of evils as in the engine case. Both trucks should have tractors in preference to other apparatus such as steamers, but to provide tractors for both aerials would require shifting the tractor now on No. 1 engine to one of the trucks and going back to a horse engine at No. 1. That involves other complications in engine locations and in any case is bound to be unsatisfactory from the viewpoint of the fire service.

The inspector of electrical wiring should have a small auto to enable him to make inspections promptly, contractors

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complaining of vexatious delays, but our request for an allowance for such a machine and for one for the master mechanic was also denied. Consequently the service of the former official can be no better next year than in this and the practice car will have to be turned over to the master mechanic.

Outside of adding the one motor pump and the one tractor the only other improvement of consequence that can be carried out in the coming year is in the fire alarm system, but that is a good one. A sufficient allowance has been granted to change the system over from slow time to quick time. Alarms now sound with intervals of 2½ to 3 seconds between blows, as that is as rapidly as the big tower bell will operate. Upon the change the big bell will be cut out of the direct alarm system, boxes and instruments will be speeded up and alarms will strike in the houses at about one second intervals. This will enable men and apparatus, particularly motors, that now have to wait in the house, though ready to go, for the first round of a long box to strike, to get out twice as soon as is now possible and valuable time will be saved at the very start of a fire. The tower bell will be operated independently by a man detailed at headquarters and alarms will be sounded as now, only, as of necessity the bell cannot be started until after the first round of a box has registered in the station, the apparatus will be on the road before the public alarms sound.

As to the future needs, to which reference has already been made, they include in the building line a new central station, with new central office fire alarm equipment and department telephone system, new houses for Nos. 1 on South Main street, No. 4 on Ann street, No. 5 on Sigourney street, and No. 6 on Huyshope avenue, either singly or in such combinations as can be worked out best. These houses are all half a century old or so, were never intended to house apparatus of the size now in use or men to the number now assigned, and cannot be altered satisfactorily. The only thing to be done with them is to pull them down and rebuild, or sell out and build anew on another site. Various combinations have been suggested and the city's six old houses (including Pearl street truck house), can probably be combined into three new ones with improvement in the department efficiency at the same time.

Future needs in the apparatus line call in the first place for strengthening the truck service. At least six trucks should be in regular service, but there are only four now, with two of them small, city trucks so-called, as distinct from aerials.

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The longest ladder on one is a 55-foot extension and on the other a 50-foot extension. They are not economically convertible into motor apparatus and our motorizing plans called for replacing them with 65-foot motor aerials. When Nos. 1 and 5 stations are replaced, provision should be made in each for a truck. The locations of Nos. 1, 2 and 5, in relation to the business section, are much the same and trucks operating together from the stations of Nos. 1 and 2, 1 and 5, and 2 and 5, would cover, respectively, much better than can be done now, the center, north, south and east sections of the business district; the factory district, and the west section of the business district. Such a layout calls for large aerials at Nos. 1, 2 and 5, and smaller ones at Nos. 12, 14 and 15. One should be installed at No. 12 in the year 1914-1915 (not having been allowed for 1913-1914), another should be placed in No. 1's new station as soon as that can be built; while the Pearl street truck should be maintained where it is until No. 5's house is rebuilt and then shifted there.

Motorizing of the fire extinguishing apparatus—engines and hose wagons—can be done by placing some form of tractor on each steamer; by substituting combination motor pumps and hose wagons in place of steamers and wagons, and keeping steamers in reserve for emergency use; or by a compromise method such as motorizing steamers and getting auto wagons for half of the companies and getting combination motor pumps for the other half, a method that would insure the presence at every fire or at least one steam engine to thaw out possibly frozen hydrants, though that has been a trouble which the department has been very free from.

Complete motorization calls further for vehicles for the fire alarm service and for a number of general purpose trucks, for delivery of supplies, delivery of coal to such engines as may be in use, etc.

These needs are things which the city cannot avoid meeting and we hope that in another year the city will be able to meet more of them than is the case this coming year. Continually putting them off neither improves the fire service nor saves money in the end, but rather adds to the expense.

Respectfully submitted,

BOARD OF FIRE COMMISSIONERS.

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OFFICERS OF THE FIRE DEPARTMENT

CHIEF OF DEPARTMENT

AUGUSTUS LOOMIS.

Office, No. 3 Engine House.

FIRST DEPUTY CHIEF OF DEPARTMENT

JOHN C. MORAN.

Office, No. 3 Engine House.

SECOND DEPUTY CHIEF OF DEPARTMENT

DANIEL J. DAHILL.

Office, No. 2 Engine House.

MASTER MECHANIC

CHARLES A. CUTLER,

Office, No. 2 Engine House.

DEPARTMENT OF FIRE ALARM SERVICE

SUPERINTENDENT

GEORGE W. HAMILTON, Residence, 29 Ashley Street.

Office, No. 43 Pearl Street.

ASSISTANT SUPERINTENDENT.

EDWARD A. SULLIVAN, Residence, 62 Green Street.

Office, No. 43 Pearl Street.

LINEMEN.

DAVID DEMAR, Residence, 6 Walnut Street

JOHN W. CONDON, Residence, 29 Sargeant Street

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ENGINE COMPANY NO. 1.

No. 197 Main Street.

George Estlow, Captain	Badge No.	40
James Lyons, Lieutenant	" "	116
John F. Dungan, Engineer	" "	235
Edward Y. Reid, Stoker	" "	45
Frank J. Madden, Engine Driver	" "	5
James F. Simpson, Hose Driver	" "	134
Michael J. Meade, Hoseman	" "	208
Peter E. Carlin, Hoseman	" "	103
Louis G. Hillman, Hoseman	" "	180
Thomas J. Noonan, Hoseman	" "	185
Austin E. Dungan, Hoseman	" "	251

Extra first size Clapp & Jones engine drawn by American La France 4-wheel, gas-electric tractor. Diameter of cylinders 9¾ inches, diameter of pumps 5¾ inches, stroke 8 inches. Weight of engine and tractor, 18,000 pounds. Capacity in gallons, 1,100. Placed in service December 31, 1912. Maker's number 2902.

Automobile combination chemical hose wagon built by the Pope Manufacturing Company. Carries one 40-gallon chemical tank, 500 feet 3 inch hose, 500 feet 2½ inch hose, 250 feet ¾ inch chemical hose; one 2-way deluge set; one 16-foot extension, one 10-foot pony extension, and one 14-foot scaling ladders. Weighs ready for use 8,300 pounds. Put in service September, 1912.

ENGINE CO. NO. 2 AND TRUCK CO. NO. 3.

Windsor Avenue and Belden Street.

George F. Claffey, Captain	Badge No.	168
Edward J. Claffy, Lieutenant	" "	97
John Keena, Engineer	" "	223
B. M. Mandeville, Stoker	" "	222
George E. Hill, Engine Driver	" "	227
Henry W. Beaune, Hoseman	" "	64
Thomas McManus, Hoseman	" "	194
Andrew P. Greaney, Hoseman	" "	164
D. J. Laporte, Hoseman	" "	248
P. A. Rafferty, Hoseman	" "	252
Edward P. Powers, Hoseman and Deputy Chief's chauffeur	" "	239
Samuel P. Fox, Lieutenant	" "	196
James P. Whalen Driver	" "	212
Oliver S. Lathrop, Tillerman	" "	135
Matthew J. Graham, Ladderman	" "	139
John E. Shannon Ladderman	" "	199
Christopher M. Hines, Ladderman	" "	70
Patrick T. Costello Ladderman	" "	192
James P. Rafferty, Ladderman	" "	100

First size Clapp & Jones Engine. Diameter of cylinders 8¾ inches, diameter of pumps 5 inches, stroke 8 inches. Weight 9,500 pounds. Capacity in gallons 900. Drawn by three horses. Placed in service January, 1896. Rebuilt, 1910. Maker's number 2314.

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Automobile combination chemical hose wagon built by the Pope Manufacturing Company. Carries one 40-gallon chemical tank, one 3-way Morse wagon pipe, 500 feet 3 inch hose, 500 feet 2½ inch hose, 250 feet ¾ inch chemical hose, one 2-way deluge set, one 16-foot extension, one 10-foot pony extension and one 14-foot scaling ladders. Weighs ready for use 8,300 pounds. Put in service September, 1912.

65 foot American automatic quick raising aerial truck with 3-horse hitch. Ladder equipment, one 50-foot extension, two 30-foot, one 28-foot, one 24-foot, one 20-foot, one 16-foot, one 16-foot extension, one 12-foot roof, one 14-foot scaling, total 305 feet. Carries one 4-way deluge set, 1 Browder life net, 1 life gun, 1 cellar pipe, 1 distributing nozzle, Weight 9,400 pounds. Placed in service April 1, 1911.

Automobile runabout, built by the Pope Manufacturing Company, for use of second deputy chief. Placed in service May, 1912.

Automobile runabout, built by the Pope Manufacturing Company, for use of master mechanic. Placed in service July, 1913.

ENGINE COMPANY NO. 3.

Market and Temple Streets.

T. J. Leary, Captain	Badge	No.	211
Thomas Lewis, Lieutenant	"	"	69
James W. Bouchard, Engineer	"	"	171
John T. Fisher, Tillerman	"	"	233
Michael T. Devanney, Hoseman	"	"	245
John C. King, Hoseman	"	"	42
William J. Egan, Hoseman	"	"	102
Joseph O'Donnell, Hoseman	"	"	37
J. P. McMahon, Hoseman	"	"	257
Charles J. Daly, Hoseman and Chief's chauffeur	"	"	2
Patrick C. Kirby, Hoseman and Deputy Chief's chauffeur	"	"	120

Extra first size Amoskeag Engine (self propeller); Diameter of cylinders 9½ inches, diameter of pumps 5¾ inches stroke 8 inches. Weight 18,000 pounds. Capacity in gallons 1300. Placed in service August, 1889. New boiler, February, 1908. Makers number 664.

Automobile combination chemical hose wagon made by the Knox Automobile Company. Carries one 35-gallon chemical tank, 500 feet 3 inch hose, 500 feet 2½ inch hose, 300 feet ¾ inch chemical hose one 3-way wagon pipe, one 12-foot ladder, one 20-foot extension ladder, one 10-foot pony ladder one 14-foot scaling ladder, one cellar pipe. Weighs ready for service 8,630 pounds. Put in service May, 1907.

55-foot American, automatic, quick raising, water tower with 3-horse hitch and turret pipe. Weight 12,000 pounds. Put in service September 1911.

Automobile runabout, built by the Pope Manufacturing Company, for use of chief. Put in service May, 1912.

Automobile runabout, built by the Pope Manufacturing Company, for use of first deputy chief. Put in service May 9, 1911.

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ENGINE COMPANY NO. 4.

No. 60 Ann Street.

Robert H. Ramsden, Captain	Badge	No.	50
James Magonigal, Lieutenant	"	"	38
John E. Carey, Engineer	"	"	145
Patrick J. Flynn, Stoker	"	"	7
John J. Conway, Hose Driver	"	"	21
J. J. Ducey, Hoseman	"	"	250
Richard F. O'Mara, Hoseman	"	"	243
Edward F. McNally, Hoseman	"	"	107
Royal W. Joseph, Hoseman	"	"	178
R. W. Morrison, Hoseman	"	"	36
Edward T. Lyons, Hoseman	"	"	98

Extra first size Amoskeag Engine (self propeller). Diameter of cylinders, 9½ inches, diameter of pumps 5¾ inches, stroke 8 inches. Weight, 18,000 pounds. Capacity in gallons, 1,300. Placed in service August, 1901. Makers number 764.

Hose Wagon, drawn by two horses, fitted with one 35-gallon chemical tank, Champion-Babcock make, carries 500 feet 3 inch and 500 feet 2½ inch hose, 250 feet ¾ inch chemical hose, one 3-way Morse wagon pipe, one cellar pipe, one 20 foot extension, one 10 foot extension pony and one 12 foot scaling ladder. Weighs ready for service 6,500 pounds Placed in service, 1896.

ENGINE COMPANY NO. 5.

No. 129 Sigourney Street.

Frank L. Stannard, Captain	Badge	No.	129
Martin W. Mahan, Lieutenant	"	"	121
Augustus P. Lyons, Engineer	"	"	75
William F. Dougherty, Stoker	"	"	1
Robert J. Hutchinson, Engine Driver	"	"	193
H. A. Clintsman, Hoseman	"	"	93
John J. Elwood, Hoseman	"	"	125
William F. Nolan, Hoseman	"	"	59
Louis E. Vetter, Hoseman	"	"	259
John J. McNally, Hoseman	"	"	179

Fourth size Amoskeag Engine. Diameter of cylinders 6¾ inches, diameter of pumps, 4¼ inches, stroke 8 inches. Weight 7,500 pounds. Capacity in gallons, 500. Placed in service, January, 1872. Makers number 386.

Automobile combination chemical hose wagon, built by the Pope Manufacturing Company. Carries one 40-gallon chemical tank one 2-way deluge set, 1,000 feet 2½ inch hose, 250 feet ¾ inch chemical hose, one 16-foot extension, one 10-foot pony, one 14-foot scaling ladders. Weighs ready for use 8,300 pounds. Placed in service September, 1912.

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ENGINE COMPANY NO. 6.

No. 98 Huyshope Avenue.

Herbert Bagshaw, Captain	Badge No	186
Keron J. Finn, Lieutenant	" "	136
Charles Milton, Engineer	" "	160
Charles R. Yorgensen, Stoker	" "	200
John Glynn, Engine Driver	" "	83
John J. Mahon, Hose Driver	" "	177
Joseph F. Vannie, Hoseman	" "	169
William J. Battie, Hoseman	" "	246
Henry J. O'Brien, Hoseman	" "	88
Robert O. Burr, Hoseman	" "	33

Second size Clapp & Jones Engine. Diameter of cylinders, 8 inches, diameter of pumps, 5 inches, stroke, 7 inches. Weight 8,500 pounds. Capacity in gallons 800. Placed in service September, 1880. Rebuilt 1912 by American La France Fire Engine Company. Makers number 571.

Hose Wagon, drawn by two horses, fitted with one 35 gallon Chemical tank, Champion-Babcock make, carries 1,000 feet 2½ inch hose and 250 feet ¾ inch chemical hose, one 20 foot extension ladder, one 10-foot pony, and one 14 foot scaling ladder, and one 2-way deluge set. Weighs ready for service 5,200 pounds. Placed in service, 1897.

ENGINE COMPANY NO. 7.

Corner Windsor Avenue and Sanford Street.

Frank B. Coggeshall, Captain	Badge No.	161
Fred. Wood, Lieutenant	" "	156
Albert B. Camp, Engineer	" "	65
E. J. Cosgrove, Stoker	" "	230
John J. Broughel, Engine Driver	" "	175
Leon E. Martin, Hose Driver	" "	47
George W. White, Hoseman	" "	184
Thomas J. Kelleher, Hoseman	" "	158
Thomas F. Creedon, Hoseman	" "	214

Second size Amoskeag Engine. Diameter of cylinders 7⅝ inches, diameter of pumps, 4½ inches, stroke, 8 inches. Weight, 9,825 pounds. Capacity in gallons, 700. Placed in service May, 1907. Makers number 806.

Hose wagon, drawn by two horses, fitted with one 35-gallon chemical tank, Champion-Babcock make, carries 1,000 feet 2½ inch hose and 250 feet ¾ inch chemical hose, one 20-foot extension, one 10-foot extension pony ladder, one 14-foot scaling ladder, and one 2-way deluge set. Weighs ready for service 5,200 pounds. Placed in service 1894.

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ENGINE COMPANY NO. 8.

Corner Park and Affleck Streets.

William H. Daley, Captain	Badge No.		188
Michael J. Cosgrove, Lieutenant	"	"	210
Nelson A. Bavier, Engineer	"	"	226
Joseph C. Downey, Stoker	"	"	25
Charles H. Frye, Engine Driver	"	"	244
James T. Hughes, Hose Driver	"	"	241
Michael A. Fagan, Hoseman	"	"	195
Daniel E. Hines, Hoseman	"	"	32
James F. Lalley, Hoseman	"	"	173
Charles W. Hyde, Hoseman	"	"	247

First size Clapp & Jones Engine. Diameter of cylinders, 9 inches, diameter of pumps, 5 inches, stroke, 8 inches. Makers number 2315. Weight, 9,500 pounds. Capacity in gallons, 900. Placed in service January, 1896. Rebuilt 1911.

Hose wagon drawn by two horses, fitted with two 35-gallon chemical tanks, carries 1,000 feet 2½ inch hose and 250 feet ¾ inch chemical hose, one 2-way deluge set, one 20-foot extension and one 14-foot scaling ladder. Weighs ready for service 5,800 pounds. Placed in service August, 1906.

SQUAD A.

43 Pearl Street.

Michael T. Keena, Captain	Badge No.		217
Charles J. Kensel, Lieutenant	"	"	163
William F. Malloy, Pipeman	"	"	219
William F. Lehmann, Pipeman	"	"	166
Thomas J. Skelly, Pipeman	"	"	237
Edward J. Devanney, Pipeman	"	"	249
Philip E. Duffy, Pipeman	"	"	42
Joseph X. O'Connor, Pipeman	"	"	187
John G. Barnard, Headquarters Detail	"	"	131

Pope Hartford automobile, Model "T" engine, 40 horse power, 4 cylinders. Equipped with two 40-gallon chemical tanks, 300 feet 1 inch chemical hose, one 17-foot extension, one 10-foot extension and one 12-foot scaling ladders, one smoke mask and one electric hand lamp. Carries eight men. Placed in service June, 1910.

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ENGINE COMPANY NO. 10.

No. 94 Bond Street.

Edward T. Murphy, Captain	Badge No.	128
James J. Shannon, Lieutenant	" "	119
James W. LeGeyt, Hoseman	" "	182
P. H. Santoro, Hoseman	" "	78
Michael J. Tracy, Hoseman	" "	236

Automobile Combination Chemical and Hose Wagon built by The Pope Manufacturing Company, carries 1,000 feet 2½ inch hose, one 40 gallon chemical tank, 250 feet ¾ inch chemical hose, one 20 foot extension ladder, one 14 foot scaling ladder, one 10-foot pony ladder and one 2-way deluge set. Weighs ready for service 8,100 pounds. Placed in service August, 1911.

ENGINE COMPANY NO. 11.

No. 3 Sisson Avenue.

E. H. Fox, Jr., Captain	Badge No.	220
Louis E. Tucker, Lieutenant	" "	204
Johnson Honce, Driver	" "	232
James H. Bolan, Assistant Driver	" "	225
Thomas Keena, Pipeman	" "	209

Holloway Combination Chemical Engine and Hose Wagon, with two 35 gallon tanks, drawn by two horses, and carries 1,000 feet 2½ inch hose, and 250 feet ¾ inch chemical hose, one 20 foot extension ladder and one 12-foot scaling ladder. Weighs ready for service 5,800 pounds. Placed in service August, 1900

ENGINE COMPANY NO. 12.

Smith Street.

Oliver W. Dimock, Jr., Captain	Badge No.	170
John E. Loughlan, Lieutenant	" "	101
Charles F. Grundt, Engineer	" "	159
George L. Brouillard, Stoker	" "	191
John F. Sullivan, Engine Driver	" "	238
John E. Erickson, Hose Driver	" "	229
Louis E. Soderberg, Hoseman	" "	52
J. T. Kelliher, Hoseman	" "	254
Daniel Burke, Hoseman	" "	201

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Second size Amoskeag Engine. Diameter of cylinders, 7⅞ inches, diameter of pumps, 4½ inches, stroke 8 inches. Weight, 9,825 pounds. Capacity in gallons, 700. Placed in service May, 1907. Makers number 807.

Holloway Combination Chemical and Hose Wagon with two 35-gallon tanks, drawn by two horses, and carries 1,000 feet 2½ inch hose and 250 feet ¾ inch chemical hose, one 20-foot extension ladder and one 12-foot scaling ladder. Weighs ready for service 5,900 pounds. Placed in service December, 1904.

ENGINE COMPANY NO. 14.

Blue Hills Avenue.

George S. Leibert, Captain	Badge No.	205
Frank Claffey, Lieutenant	" "	105
Joseph F. Cummings, Engineer	" "	231
John J. Walsh, Stoker	" "	82
J. E. Blanchfield, Engine Driver	" "	3
William C. Case, Hose Driver	" "	157
David F. McSweegan, Hoseman	" "	114
John M. Smith, Hoseman	" "	203
Frank R. Shannon, Hoseman	" "	66
Clarence A. Andrews, Truck Driver	" "	207
Benjamin D. Bailey, Ladderman	" "	153
John J. Powers, Ladderman	" "	81
Arthur A. Grundt, Ladderman	" "	43

Third size Amoskeag Engine. Diameter of cylinder, 7⅞ inches, diameter of pumps, 4⅜ inches, stroke, 8 inches. Makers number 781. Weight 8,500 pounds. Capacity in gallons, 600. Placed in service December, 1904.

Combination chemical and hose wagon, drawn by two horses. Carries one 35-gallon chemical tank, 1,000 feet 2½ inch hose, 250 feet ¾ inch chemical hose, one 20-foot extension, one 10-foot pony ladder, one 14-foot scaling ladder. Weighs ready for use 3,825 pounds. Placed in service, 1896.

Rebuilt Leverich truck, with rubber tires, drawn by two horses. Ladder equipment, one 50-foot extension, one 35-foot extension, one 14-foot roof, two 28-foot, two 20-foot, one 14-foot scaling, total, 221 feet. Carries one 3-way deluge set, 1 life net, 1 cellar pipe, 1 distributing nozzle. Weighs, ready for use, 4,500 pounds. Placed in service April, 1907.

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ENGINE COMPANY NO. 15 AND TRUCK NO. 2.

Corner New Britain and Fairfield Avenues.

Anthony F. Bolan, Captain	Badge No.	174
Robert H. Lee, Lieutenant	" "	112
Burt W. Randall, Engineer	" "	126
James E. Buckley, Stoker	" "	213
John F. Wall, Driver	" "	133
John J. Carlin, Driver	" "	4
James W. Radigan, Assistant Driver	" "	228
E. W. Friberg, Hoseman	" "	87
Edward A. Meagher, Driver	" "	150
Patrick J. Murphy, Ladderman	" "	16
Dennis P. Moylan, Ladderman	" "	113
James A. Costello, Ladderman	" "	151
John J. Collins, Ladderman	" "	35
Edward W. Dillon, Ladderman	" "	172

Third size Amoskeag Engine. Diameter of cylinders, 7⅜ inches, diameter of pumps, 4⅜ inches, stroke 8 inches. Capacity in gallons, 600. Weight, 8,600 pounds. Placed in service August, 1900.

American La France combination chemical hose wagon drawn by two horses. Carries two 35-gallon chemical tanks, 1,000 feet 2½ inch hose, 250 feet ¾ inch chemical hose, one 20-foot extension, one 12-foot roof, one 14-foot scaling ladders. Weighs, ready for use, 5,960 pounds. Placed in service April, 1909.

American La France steel frame tillerless truck with rubber tires, drawn by two horses. Ladder equipment, one 55-foot extension, one 45-foot extension, one 35-foot extension, two 30-foot, two 24-foot, one 14-foot extension, one 14-foot, one 12-foot roof, one 16-foot scaling, total, 299 feet. Carries one 4-way deluge set, 1 life net, 1 cellar pipe, 1 distributing nozzle. Weighs 5,000 pounds. Placed in service, 1906.

TRUCK COMPANY NO. 1.

275 Pearl Street.

Michael T. Ward, Captain	Badge No.	76
Charles D. Weir, Lieutenant	" "	167
John E. LeGeyt, Driver	" "	240
John J. Moran, Tillerman	" "	9
Thomas A. Hanaghan, Ladderman	" "	242
William M. Kane, Ladderman	" "	234
E. F. Camp, Ladderman	" "	11
Richard Collins, Ladderman	" "	12
Thomas T. Vail, Ladderman	" "	106
James A. Burns, Ladderman	" "	44
Michael Wall, Ladderman	" "	255

American Lafrance Automatic Quick Raising Aerial Truck three horse hitch. Aerial ladder 85 foot, one 55 foot extension ladder, one 45 foot extension ladder, two 28 foot ladders, one 24 foot ladder, one 20 foot ladder, one 16 foot ladder, one 12 foot roof ladder, one 14 foot and one 16 foot scaling ladders, total, 343 feet. Carries one 4 way Eastman deluge set, one Browder life net, one life gun, one cellar pipe, one distributing nozzle and miscellaneous tools. Weighs 13,000 pounds. Placed in service September 21, 1911.

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There are Also in the Department the Following Spare Apparatus for Emergency Use

SPARE ENGINE. (Propeller)

Makers number 502. Second size Amoskeag Engine. Diameter of cylinders 7⅝ inches, diameter of pumps, 4½ inches, stroke 8 inches. Capacity in gallons, 700. Weight, 10,500 pounds. Placed in service February, 1876.

SPARE HORSE ENGINE.

Makers number 290. Fourth size Amoskeag Engine. Diameter of cylinders, 6⅞ inches, diameter of pumps 4¼, stroke, 8 inches. Capacity in gallons, 500. Weight 7,200 pounds. Placed in service June, 1868.

SPARE TRUCK.

Second-class Babcock Aerial Turn-table Truck, drawn by three horses, longest ladder 80 feet aerial. Also one 55 foot extension, one 15 foot extension, one 12 foot roof ladder, one 17 foot roof ladder, one 35 foot, one 30 foot, one 25 foot and one 10 foot ladder.

PHOENIX STEAM FIRE ENGINE NO. 3.

Reserve Engine.

First Steam Fire Engine purchased by the City of Hartford. Amoskeag (old rating) Second-class Harp-tank Engine. Makers Number 45. Diameter of cylinder, 8½ inches, diameter of pumps 4¾ inches, stroke 12 inches, weight, 5,500, capacity in gallons 500. Placed in service November, 1861.

One Holloway chemical engine, with two 50-gallon tanks and 300 feet 1-inch chemical hose. Put in service, 1896.

Two combination chemical hose wagons.

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HOSE

Co.	IN SERVICE Good. 2½"	3"	Fair. 2½"	3"	SPARE Fair.	Poor. 2½"
1	1000′	1000′			2000′	
2	2000	1000				
3	1050	1000				
4			1000′	1000′		
5	1950′					
6			2000			850′
7	2000					
8	1950					
9						750
10			2150			1850
11	2000					
12			2150			1800
14	2000					
15	2000					
D. Tower			450			50
Total	15950	3000	7750	1000	2000	5300

Amount of 2½" hose in service ..... 23700 feet
Amount of 3" hose in service ..... 4000 feet

27700 feet

Spare hose, Fair ..... 2000 feet
Spare hose, Poor ..... 5300 feet

7300 feet

Total ..... 35000 feet

HOSE BOUGHT IN 1912.

2½"	2100 feet
3"	2050 feet
3½"	300 feet
Total	4450 feet

1 inch and ¾ inch chemical hose in service ..... 3600 feet
1 inch and ¾ inch chemical hose on spare apparatus ..... 1200 feet

4800 feet

1 inch single cotton jacket rubber lined hose ..... 900 feet

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Salaries of Members of the Force

Chief of Department	$2,700.00	per annum
First Deputy Chief	2,000.00	" "
Second Deputy Chief	1,700.00	" "
Master Mechanic	1,600.00	" "
Superintendent of Fire Alarm	2,000.00	" "
Assistant Superintendent	1,500.00	" "
Captains	1,400.00	" "
Lieutenants	1,300.00	" "
Engineers	1,350.00	" "
All other members of the Force:—		
1st Grade	$1,200.00	per annum
2d "	1,050.00	" "

All of the above salaries are fixed by City Ordinances. The Force consists of 154 men.

VACATIONS AND DAYS OFF

Each member of the Department is allowed one day in ten, and ten days vacation without deduction of pay.

FIRES AND LOSSES FROM APRIL 1, 1912, TO MARCH 31, 1913.

MONTH.	BOX.	STILL.	INSURANCE.	LOSS.
April	7	25	$12,400.00	$5,436.00
May	12	15	253,060.00	3,515.00
June	16	34	322 550.00	53,657.00
July	17	36	67,625.00	25,513.00
August	7	23	24,500.00	674.00
September	13	26	100,800.00	5,653.00
October	14	36	44,400.00	11,222.00
November	14	24	107,400.00	15 360.00
December	21	41	300,000.00	54,815.00
January	18	27	992 550.00	10,342.00
February	11	26	229 750.00	5 277.82
March	13	25	227 790.00	4,724.40
Total	163	338	$2 682,825 00	$197 189.22

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Changes in the Department

RETIRED.

CHIEF LOUIS KRUG.

PROMOTIONS AND TRANSFERS.

Chief: Augustus Loomis, from 1st Deputy Chief.
First Deputy Chief: John C. Moran, from Second Deputy Chief.
Second Deputy Chief: Daniel J. Dahill, from Captain No. 1.
Captain No. 1: George Estlow from Captain No. 14.
Captain No. 3: Timothy J. Leary, from Lieutenant of No. 3.
Captain No. 6: Herbert Bagshaw, from Lieutenant No. 6.
Captain No. 10: Edward T. Murphy, from engineer No. 1.
Captain No. 11: Edgar H. Fox, Jr., from captain No. 6.
Captain No. 14: George S. Leibert, from captain No. 3
Lieutenant No. 3: Edward J. Claffy, from lieutenant No. 4.
Lieutenant No. 4: James Magonigal, from tillerman No. 4.
Lieutenant No. 6: Keron J. Finn, from tillerman Truck No. 1
Engineer at No. 1: John F. Dungan, from stoker No. 8.
Engineer at No. 4: John E. Carey, from Engineer No. 15.
Engineer at No. 8: Nelson A. Bavier, from engineer No. 14.
Engineer at No. 14: Joseph F. Cummings, from engineer No. 4.
Engineer at No. 15: Burton W. Randall, from stoker No. 12.
Stoker at No. 8: Joseph C. Downey, from driver No. 8.
Stoker at No. 12: George L. Brouillard, from hoseman No. 2.
Driver Truck No. 3: James P. Whalen, from hoseman No. 2.
Driver at No. 8: James T. Hughes, from hoseman No. 8.
Hoseman at No. 2: Andrew P. Greaney, from substitute.
Hoseman at No. 2: Thomas McManus, from substitute.
Hoseman at No. 2: David J. Laporte, from substitute.
Hoseman at No. 4: Royal W. Joseph, from substitute.
Hoseman at No 4: James J. Ducey, from substitute.
Hoseman at No. 5: James J. Gilligan, from substitute.
Hoseman at No. 5: John J. McNally, from No. 12.
Hoseman at No. 6: Robert O. Burr, from No. 12.
Hoseman at No. 8: Daniel E. Hines from No. 14
Hoseman at No. 10: Patrick H. Santoro, from No. 3.
Hoseman at No. 12: John P. McMahon from substitute.
Hoseman at No. 12: John T. Kelliher, from substitute.
Hoseman at No. 14: Frank R. Shannon, from substitute.
Squad "A": Joseph X. O'Connor, from substitute.
Squad "A": E. J. Devanney, from substitute.
Ladderman Truck No. 1: Thomas A. Hanaghen, from substitute.
Headquarters detail: John G. Barnard, from No. 10.
Detailed as Chief's chauffeur: Charles J. Dely from No. 1
Detailed as Dep. Chief's chauffeur: Patrick C. Kirby from No. 10.
Detailed as Dep. Chief's chauffeur: Edward P. Powers from No. 2.

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RESIGNED.

Crowe, James J.: Driver Truck No. 3.
Gilligan, James J: Hoseman No. 5.
Kemmerer, John R. Substitute.
Lavery, Frank J. Hoseman, not assigned.
Lowery, Michael J. Hoseman No. 6.
Metcalf, Leon E. Substitute.
Peck, Charles H. Substitute.

APPOINTED SUBSTITUTES.

Burns, Joseph H.
Bush, Charles W.
Cody, Edward W.
Daley, Robert T.
Devanney, W. H.
Hickey, Michael J.
Hughes, Harry T.
Linehan, Jeremiah
Lobmeyer, Alexander
Lyons, John J. L.
Martin, Charles W.
McCrossen, Daniel J., Jr.
Morrison, David R.
O'Brien, Thomas A.
O'Connor, Joseph F.
Potter, George M.
Slamon, Patrick J.
Spellman, William L.
Tonkinson, John
Wamester, John P.

DIED.

Manion, John J. Squad "A".
McDonald, John J. Hoseman No. 4.

DISCHARGED OR DROPPED.

Cavanaugh, Jeremiah J. Substitute.
Ennis, Patrick J. Substitute.
Finnigan, Hubert H. Substitute.
Lobmeyer, Alexander. Substitute.
McGovern, Bernard. Substitute.
Root, Albert J. Substitute.
Shaw, John H. Substitute.
Slamon, Patrick J. Substitute.
Starr, Jerome E. Substitute.
Sullivan, Cornelius J. Substitute.
Turner, William J. Substitute.
Zimmer, Fred J. Hoseman No. 2.

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Allowances Granted for Absence Due to Injury or Sickness

FULL PAY.

Brouillard, George L.	$8.25
Burke, Daniel	36.00
Camp, E. F.	4.50
Carey, John E.	37.40
Carlin, John J.	4.50
Creedon, Thomas F.	33.60
Crowe, James J.	3.75
Devanney, Edward J.	186.00
Dillon, Edward W.	41.25
Duffy, Philip E.	55.00
Fagan, Michael A.	17.50
Fox, Samuel P.	48.05
Gilligan, James J.	6.25
Graham, Matthew J.	12.00
Hanaghan, Thomas A.	12.50
Hill, George E.	3.00
Hines, Daniel E.	388.75
Honce, Johnson	32.97
Hughes, James T.	93.88
Hutchison, Robert J.	76.50
Lally, James F.	16.50
LeGeyt, James W.	27.50
Lyons, Augustus P.	181.16
Mahan, Martin W.	9.30
Mahon, J. J.	7.50
Morrison, Raymond W.	46.50
Noonan, Thomas J.	8.25
O'Connor, Joseph X.	7.50
Powers, Edward P.	145.75
Powers, John J.	93.00
Rafferty, James P.	37.50
Simpson, James F.	54.00
Sullivan, John F.	31.50
Tracy, Michael J.	54.75
Weir, Charles D.	63.55
Whalen, James P.	24.00
	$1,559.91

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HALF PAY.

Bailey, Benjamin D.	$18.00
Barnard, John G.	48.00
Carlin, Peter E.	27.50
Clafly, Edward J.	40.30
Clintsman, Harry A.	25.48
Collins, John J.	9.38
Costello, James A.	74.25
Dimock, Oliver, W.	10.50
Duffy, Philip E.	37.50
Finn, Keron J.	9.30
Fisher, John T.	17.25
Glynn, John	15.75
Kane, William M.	23.55
Leibert, George S.	12.25
MacDonald John J.	20.63
McMahon, John P.	25.00
McSweegan, David F.	13.50
Meade, Michael J.	4.50
Nolan, William F.	21.00
Skelly, T. J.	6.20
Vannie Joseph F.	400.18
	$860.29

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DRILL SCHOOL REPORT.

Hartford, Conn., October 28, 1912.

Augustus Loomis, Chief
Hartford Fire Department,
Hartford, Conn.

Dear Sir:—I beg leave to report the names and records of the members working at the school of instruction this year. The accompanying list gives the names of members and probationary members who went through the school.

The only serious accident that occurred this year at the school was that of Fireman J. F. Simpson of Engine Company No. 1, who turned his ankle in the net when sliding down rope. He was off duty from May 29 until June 15. Fireman T. J. Noonan of Engine Company No. 1 received an injury to his back when sliding down rope (double) striking on window sill. He was off duty from June 27 until July 7. After performing two days duty at the school James J. Gilligan (probationer), claiming a sprained ankle, was ordered back to quarters. The physician in charge of his case reported the sprain of such a nature that in my judgment he could have continued his work with the class. Fireman Johnson Honce of Chemical Company No. 11 reported on the first day at school that he had a blister on his hand before doing any work. He was off duty after completing his course at the school.

Fireman R. O. Burr of Engine Company No. 6 could not finish his course with his class owing to an operation.

I was well assisted in my work at the drill school by Lieutenant Keron J. Finn.

Respectfully submitted,

(Signed) CAPTAIN R. H. RAMSDEN,
Instructor.

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The following probationary men passed through their course of instruction at the school first-class: A. P. Greaney, D. J. Laporte, Thos. McManus, R. F. O'Mara, R. W. Joseph, P. J. Flynn, J. J. Ducey, R. W. Morrison, J. T. Hughes, J. T. Kelliher, J. P. McMahon, T. A. Hanaghan, E. J. Devanney, J. X. O'Connor, F. R. Shannon.

The following officers passed through their course of instruction at the school first-class:

Captains—F. B. Coggeshall, No. 7; G. S. Leibert, No. 14; W. H. Daley, No. 8; T. J. Leary, No. 3; G. F. Claffey, No. 2; A. F. Bolan, No. 15; F. L. Stannard, No. 5; George Estlow, No. 1; M. T. Ward, Truck No. 1; H. Bagshaw, No. 6; E. T. Murphy, No. 10; M. T. Keena, Squad A.

Lieutenants—M. W. Mahan, No. 5; M. J. Cosgrove, No. 8; J. Lyons, No. 1; Thos. Lewis, No. 2; Fred Wood, No. 7; C. J. Kensel, Squad A; J. E. Loughlin, No. 12; F. Claffey, No. 14; J. J. Shannon No. 10; R .H Lee, No 15; C. D. Weir, Truck No. 1; Jas. Magonigal, No. 4; S. P. Fox, Truck No. 3.

The following members passed through their course of instruction at school:

First-class—Jas. F. Simpson, E. A. Meager, J. O'Donnell, O. S. Lathrop, T. F. Creedon, E. W. Dillon, A. A. Grundt, E. J. Cosgrove, M. J. Meade, T. T. Vail, M. J. Graham, W. J. Egan, J. F. Lally, D. P. Moylan, J. J. McNally, W. F. Malloy, J. E. LeGeyt, P. E. Carlin, T. J. Skelly, T. J. Noonan, J. E. Shannon, B. D. Bailey, J. C. Downey, J. J. Conway, E. Y. Reid, J. P. Whalen, J. J. Mahon, J. H. Bolan, J. E. Blanchfield, E. W. Friberg, T. J. Kelleher, L. E. Soderberg, E. F. Camp, G. L. Brouillard, J. Manion, J. C. King, M. A. Fagan, P. J. Murphy, W. F. Nolan, E. F. McNally, L. E. Martin, J. J. Moran, J. P. Rafferty, J. W. LeGeyt, R. J. Hutchinson, Johnson Honce, R. Collins, F. J. Madden, E. P. Powers, D. Burke, W. F. Dougherty, C. A. Andrews, J. F. Wall, J. A. Burns, J. J. Carlin, H. W. Beaune, H. J. O'Brien Thos. Keena, D. E. Hines, W. M. Kane, C. H. Frye, J. E. Erickson, E. T. Lyons, G. E. Hill, D. F. McSweegan, J. A. Costello, J. W. Radigan, B. Mandeville, J. E. Buckley.

Second-class—J. J. Powers, L. G. Hillman, H. A. Clintsman, P. H. Santoro.

Third-class—G. W. White.

Not having enough to form a class the following members did not attend and will go over until next year: Lieutenant L. E. Tucker, P. T. Costello, W. F. Lehmann, P. E. Duffy, J. J. Walsh, C. J. Daly, P. C. Kirby.

Those members who did not go through on account of sickness or other causes are as follows: Captain E. H. Fox, Jr., Captain O. W. Dimock, Lieutenant E. J. Claffy, J. F. Sullivan, J. M. Smith, John Glynn, J. F. Vannie, C. R. Yorgensen, W. C. Case, J. J. Elwood, J. T. Fisher, J. J. Broughel, M. J. Tracy, C. M. Hines.

Number of members attending the school this year:—

Probationary men	15
Regular men	100
Total	115

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REPORT

OF THE

Board of Health Commissioners

FOR THE

Year Ending December 31, 1912

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BOARD OF HEALTH

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BOARD OF HEALTH COMMISSIONERS.

Organized March 12, 1885.

Honorable LOUIS R. CHENEY, Mayor, ex officio.

EDWARD K. ROOT, M.D., ...	Term expires 1913
THOMAS F. KANE, M.D., ...	Term expires 1913
JAMES F. DUFFY, ...	Term expires 1914
PAUL WATERMAN, M.D., ...	Term expires 1914
THOMAS J. KELLEY, ...	Term expires 1915
JOSEPH KASHMAN, ...	Term expires 1915

Officers.

THOMAS F. KANE, M.D., President.
CHARLES P. BOTSFORD, M.D., Superintendent and Clerk.
MYRON B. YAW, Assistant Clerk.
ARTHUR J. WOLFF, M.D., Bacteriologist.
JOSEPH HAUARTY, Milk Inspector.

Medical Inspectors.

ROBERT S. STARR, M.D., JAMES F. ROONEY, M.D.,
DAVID J. MOLUMPHY, M.D.,
DWIGHT W. TRACY, M.D.

Sanitary Inspector.

HENRY S. STRONG.

Assistant.

DENNIS J. MURPHY.

Plumbing Inspector.

JOHN H. MALOY.

Assistant.

SAMUEL G. ADAMS.

Food Inspector.

THOMAS FLANAGAN.

Assistant.

FRANK E. SHEA.

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To His Honor the Mayor and the Honorable Court of Common Council of the City of Hartford.

Gentlemen:

We have the honor of presenting for your consideration the twenty-eighth annual report of the Board of Health.

Respectfully submitted,

EDWARD K. ROOT, M.D.
THOMAS F. KANE, M.D.,
JAMES F. DUFFY,
PAUL WATERMAN, M.D.,
THOMAS J. KELLEY,
JOSEPH KASHMAN,

Board of Health Commissioners.

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SUPERINTENDENT'S REPORT.

Hartford, Conn., March 1, 1913.

To the Honorable Board of Health Commissioners,
Hartford, Connecticut.

Gentlemen:—

During the year you have held sixteen meetings, and although one of your number, Commissioner Kashman, has been confined to his house by illness and able to attend but three meetings, on one occasion only has a quorum failed to be present. In addition to the routine work the following matters of business have been acted upon: A conference with the committee of the Common Council on the location and construction of the public bath houses; formulating rules for the management of the hucksters' market; electing an assistant food inspector; adopting regulations to prevent mosquito breeding along the banks of Park River; amending the ordinance concerning the licensing of plumbers, and the regulations under which they are examined. A start has been made toward an isolation hospital, and an ordinance governing the construction and maintenance of stables has been placed before the Court of Common Council.

The appropriation of the year, $26,416.67, is an increase of $3,241.67 over that of the previous year. This increase is covered by the additional duties laid upon the Board in connection with the new tenement-house law and the hucksters' market.

The details of the appropriation are as follows:

Salaries	$16,116.67
Transportation	2,600.00
Clerical assistance	1,040.00
Janitor	144.00
Ambulance	450.00
Disinfectants	150.00
Vaccination	300.00
Burial of dead animals	50.00

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Mosquitoes	100.00
Milk expense	100.00
Telephone	116.00
Fees for reporting births and deaths	1,500.00
Rent	1,200.00
Printing and postage	750.00
Laboratory	1,000.00
Miscellaneous	800.00
Total	$26,416.67

The operating force has remained unchanged during the year except as increased by the creation of a new position, that of Assistant to the Food Inspector. Mr. Frank E. Shea, your appointee to this position, is doing efficient work and has justified his appointment.

The continually growing work of the Board requires the best efforts of all for its satisfactory accomplishment, and I take pleasure in reporting to you that each one in his place has been doing his best for the success of the work of the department.

VITAL STATISTICS

The total deaths for the year, 1,861, are but 12 more than for the previous year. 350 of these, over 18 per cent. of the total, are of residents of other towns who were brought to our hospitals for treatment. Our population, estimated according to the rules of the census bureau, is 102,727. On this basis our resident death rate for 1912 was 14.70, which compares favorably with that of the previous year, 15.16, but which still is higher than the five-year average—14.46.

As has been the case for several years, pneumonia is our chief cause of death. There were during the year 201 deaths from pneumonia and broncho-pneumonia. This is, however, an improvement on last year when there were 272 deaths. Although pneumonia is classed as a preventable disease, the possible sources of infection are so many and so closely connected with our ordinary habits of life, that it seems impossible to do much officially to control it at present.

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TUBERCULOSIS.

There were 118 deaths from all forms of this disease and 78 from consumption for the year, compared with 130 and 102 respectively for last year. Since the opening of the state sanatorium for tuberculosis our death rate appears to show an improvement which is greater than is actually the case, as 38 residents of Hartford have died of tuberculosis in the state institutions during the year, making the total deaths from consumption 116. This is, however, a substantial improvement over past years, and as there are now sufficient accommodations for practically all cases that cannot be properly treated at home, we are in better condition to attack the disease than ever before.

There were 252 new cases reported, an increase of 74 over the previous year. This is, however, due to more nearly complete returns by physicians rather than to any actual increase.

TYPHOID FEVER.

There were 76 resident cases of this disease and four deaths during the year, compared with 94 cases and 14 deaths in 1911. This death rate, 3.9 per 100,000, is unusually low and gives us for this year at least a rate which is probably as low as any city in the country.

Of the 76 cases, 34 were definitely traced; 13 were contracted out of town, 7 were contacts, 1 a nurse, and the remainder in two family groups, one of four individuals and one of two, who were infected from unrecognized first cases. Eighteen individuals out of a group of 28 guests at a wedding contracted typhoid, and fourteen of these were residents of the city. Nearly 100 guests attended the wedding, but the infection was limited to a group of 28 who stayed to an informal dance after its close. A bowl of fruit punch from which the earlier guests had partaken had a fresh piece of ice placed in it, and apparently all the cases of typhoid were among those drinking after this second piece of ice had been used. This ice or some specially virulent carrier among the guests would appear to have been responsible for the infection.

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DIPHTHERIA.

There were 343 cases of this disease reported, 103 less than in the previous year. The deaths, however, numbered 37, but one less than last year. These were in large part laryngeal cases or severe infections that could not be properly cared for at home and for which there was not room in the contagious ward.

SCARLET FEVER.

This disease has also been less prevalent than in 1911, 392 cases and 21 deaths being reported, compared with 486 cases and 18 deaths last year. A few cases have been severe, but the majority have been very mild and in many instances the disease has not been recognized or a physician called, and the cases have appeared to a great extent in localized groups around such centers of infection.

MEASLES.

For the first time in years we have had an epidemic of measles affecting the whole city. 663 cases were reported, which does not represent the total number, as in many cases no physician was called. There were 12 deaths. The epidemic was unusual in that it came in the warmer months of May, June and July, which reduced the number of complications and the indirect death rate.

There are many cases of scarlet fever, diphtheria and measles which it is impossible to properly care for at their places of residence, and the contagious ward at the Hartford hospital, which accommodated the needs of the city until the last few years, is now far outgrown, so that nearly one-half of the cases which should have had hospital treatment were cared for in their homes. Under these conditions it has been specially difficult to maintain efficient isolation, and a gradual increase in the number of cases of these diseases has occurred.

Following the opening of the contagious ward in 1893,

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there was a marked decrease in scarlet fever and diphtheria, which continued until five years ago. Since that time there has been an upward tendency, which seems to correspond quite closely to the lack of hospital accommodations.

INFANTILE DEATHS.

In spite of all the efforts made last year there was an increase in the deaths of children under one year; 392 deaths were reported, 87 more than in 1911. This gives a rate of 126 per 1,000 births, compared with 113 for 1911 and 123 for the five-year average.

Classified as to causes, there were 26 from contagious disease compared with 25 last year; 84 from diarrhea, compared with 57; 182 from congenital debility and prematurity, compared with 135, and 102 from other causes, compared with 88. This shows that the increase in mortality is not confined to any one group of diseases and that nearly one-half of the total, 182, were due to prematurity and congenital debility, causes over which we have little control.

During the six warm months of May, June, July, August, September and October there were 203 deaths, and during the remainder of the year 189, a difference of but 14. The average number of deaths per month is 32. There are three of the warm months above this and two of the cold months. The highest in any one month is 50 in September, and the lowest 15 in November. It would appear therefore that the efforts toward improving the Summer conditions have caused a marked reduction in the Summer death rate.

BIRTHS.

There were 2,991 living births during the year, an increase of 305 over last year, giving a rate of 29.10 per 1,000 population, compared with 26.64 last year and 22.40 for the five-year average. This is probably due to more complete returns rather than to any actual increase in the births. In 1,029, or about one-third of the births, both parents were born in the United States.

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MARRIAGES.

There were 1,438 marriages in the city during the year, compared with 1,237 in 1911. This gives a rate of 13.79 per 1,000 population, compared with 9.85, the average for five years. This increase is due to the change in the Massachusetts law which requires a five-day notice before a license can be used. In 323 of the marriages both parties were from out of town, and the great majority of them came from Massachusetts.

SCHOOL INSPECTION.

The medical inspectors have excluded from school during the year 950 children suffering from contagious disease of various kinds. Twelve of these were for measles, 166 for diphtheria, 5 for mumps, 217 for skin diseases, 550 for parasitic diseases, 4 for scarlet fever, 13 for chicken pox, and 111 for other causes.

The regular inspection of school children for contagious disease was begun by the Board in 1899 as an emergency measure. There was soon a demand for some of the schools to have this work extended to cover non-contagious troubles. This, however, exceeded the legal power of the Board of Health. As a tentative measure the inspectors were allowed unofficially, when no contagious disease was present, to place their time at the disposal of the school authorities who wished to take up health inspection. This has been carried on long enough to show the need of the work and also the disadvantages that follow the attempt to do it in the irregular and extra legal manner in which it has been attempted.

Since 1903 there has been a permissive law on the statutes of the state giving the school authorities power to do this work, and the experience in other states seems to indicate that it can be best done when under the control of the educational authorities, leaving the Health Board free to deal with special contagious disease situations that may arise.

Without question there should be a much more complete oversight of the physical condition of our school children than

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at present, and our experience seems to agree with the consensus of opinion in other places that this work can best be done by the school authorities.

TENEMENT HOUSES.

The more definite powers given the Board of Health by the last legislature to remedy unsanitary conditions in tenement, lodging and boarding houses has greatly increased the responsibilities and also the opportunities of the sanitary and plumbing inspectors. As you will see by the reports of these officials, a great amount of work has been done, and there has been a very definite improvement in housing conditions.

During the year 1,542 notices have been sent under the tenement-house law and 1,413 of these have been complied with. 629 old houses have had new plumbing installed; 35 vaults have been abolished, so that there are now but 55 houses supplied with outside privies in the whole city; 122 dark bedrooms and 61 dark halls have been lighted and ventilated.

The public sentiment in favor of the enforcement of the law has made our work relatively easy, and in but twelve cases has it been necessary to prosecute. In each case taken to the courts the law has been sustained.

It would, however, have been impossible to accomplish what has been done without the aid which has been given us from individuals and organizations which are interested in this work. There is still much to do to improve our housing conditions, and of supreme importance is the education of both tenant and landlord so that the new work that has been put in may not be needlessly destroyed. To my mind the class of landlords who allow their tenants to commit wilful or at least unnecessary damage to their property just because they pay their rent regularly is the greatest stumbling-block in the way of a satisfactory solution of our housing problem. Something can, however, be done by frequent inspection to improve these conditions, and an additional sanitary inspector is urgently needed for this work.

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It is not wise in my opinion to make a separate department of tenement inspection, as the work can be done more economically by the inspectors of the sanitary and plumbing departments in connection with their routine work.

STABLES.

We are in receipt of an increasingly large number of complaints of unsanitary conditions attending the operation of stables in which horses or cattle are kept, and at present we have very little power over these conditions.

With the exception of the ordinance governing the storage and removal of manure within one and one-half miles of the City Hall and the clause in the tenement-house law which forbids the maintenance of a stable on the same lot with a tenement house within twenty feet of a dwelling, there are no regulations covering the construction or maintenance of a stable. A majority of our stables have open floors, so that the ground beneath becomes saturated with the liquid discharges and is often as prolific a breeding-place for flies as the manure pit.

With the number of insect or animal carriers of disease that have their usual breeding-places around stables, it is important that we take measures so that at least the new stables may be constructed in a sanitary manner.

The laboratory of the department has remained under the efficient charge of Dr. Wolff with Dr. Heublein as assistant. The detailed reports will show the volume of work in testing for diphtheria, tuberculosis and typhoid that has passed through their hands.

The method adopted at the beginning of the year of testing all samples of milk for visible dirt, while by no means ideal, is a practical thing that appeals alike to farmer and consumer, and while it is undoubtedly best never to get the dirt in, it is equally true that it is better to educate the farmer to strain it out at once rather than to let it remain in the milk.

The milk inspector's report will show you that he has had a busy and also a successful year and that there has been a

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steady improvement in the condition of the farms producing and the milk-rooms distributing milk in the city. Our supply is in a way fortunately located, in that practically all the raw milk sold is produced on farms situated closely enough to the city to make frequent inspection possible with the very limited force we now have. But one dealer in the city is handling milk from outside this zone, and in this case the milk is taken to a well-equipped plant, clarified and thoroughly pasteurized, so that a very satisfactory product is secured. Connecticut still lags far behind, in that practically no provision is made for preventing the sale of milk from tuberculous cattle.

The work of the food inspector was greatly increased by the opening of the hucksters' market. The space first available was overcrowded at once, so that in order to give all a chance it was deemed best not to lease stalls, but to compel the first comers to make their sales or purchases and give place to those coming later. This, of course, required very close supervision and demanded time that was needed in other places. The appointment of an assistant has relieved the tension this Winter and will make the work next year much more efficient.

There is urgent need that the city secure authority to require the inspection and proper sealing of all meats offered for sale in the city which do not bear the seal of a United States inspector. Under present conditions it is impossible to identify the flesh from diseased animals because this meat is carefully trimmed and cut up at the time of killing.

A regulation requiring that all carcasses offered for sale in the city should be presented to the inspector in a sufficiently intact condition so that he could judge of their healthfulness would control the situation, and with this secured, it would be possible to maintain a modern slaughterhouse.

The work of altering the old tenement houses so that they conform to the standards set by law has exacted the expenditure of an amount of time in the plumbing department entirely out of proportion to the volume of work done and has required practically the whole of Mr. Maloy's time. It has been the endeavor of the department to have the work done in

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such a way as to be least expensive to the landlord, and at the same time to conform to the established sanitary standards.

The amount of new work done has been practically the same as in the previous year and as this is in large part around the outer fringe of the city, greater distances have had to be covered by the inspectors.

The reports of the separate departments will give you the details of the work that has been done by them during the year, and I submit them for your consideration.

Respectfully submitted,

C. P. BOTSFORD,
Superintendent.

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TABLES OF VITAL STATISTICS.

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DEATHS CLASSIFIED BY CAUSES, AGE, COLOR, SEX, WARDS AND PUBLIC INSTITUTIONS.

ALL CAUSES.	Total Deaths	AGES.											COLOR.				WARDS.													
													White		Bl'k															
		Under 1 Year	1 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	Over 90	Male	Female	Male	Female	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th	Almshouse	Hartford Hosp.	St. F. Hosp.	Other Institut's	Non Residents
1.—General Diseases	456																													
1 Typhoid fever	13				3	3	3	2	1	1			6	6		1				4			8	1				6	4		9
6 Measles	12	1	11										7	5			2	1	1			1		2	1	4					
7 Scarlet fever	30	2	17	6		4	1						18	12			1		2	1			22	4				20	1		9
8 Whooping cough	9	8	1										5	3	1		1			3				4		1					
9 Diphtheria and croup	42	5	19	10	5	1		1			1		22	19	1		2		6	1		4	27	2				23		1	5
10 Influenza	7	4							1	1	1		3	4			2		2					2		1					
18 Erysipelas	5	1						1	1	1	1		4	1						2			2		1			2	2		4
20 Purulent infection and septichæmia	18	4	1			5		2	1	3	2		8	10					2	5			10			1	1	9	4		6
28 Tuberculosis of the lungs	78		2	1	7	21	16	14	6	9	1	1	44	34			2	4	10	17	2	3	13	13	8	6	7	6	5	1	8
29 Acute miliary tuberculosis	8		2	1		2	1	1		1			4	2		2				3			5					4	1		3
30 Tuberculous meningitis	23	4	8	1	4	1	1	1		3			12	11				2	2	12		1	3	1	1	1	1	1	10	2	4
31 Abdominal tuberculosis	3		2					1					2	1						2			1					1	2		
32 Pott's disease	1						1						1										1					1			1
34 Tuberculosis of other organs	5		2				1	1	1				3	2						1			2	1		1		2	1		2
36 Rickets	3	1	2										2	1			1			2							2				
37 Syphilis	13	8	1			1	2	1					4	8		1		2		4			7				3	7	1		5
38 Gonococcus infection	1	1												1									1					1			
39 Cancer of the buccal cavity	8							1	4		3		6	2			1	1	1			1	4					3			2
40 Cancer of the stomach and liver	43						3	9	7	14	10		20	21	1	1	2	5	2	17	1	1	9	2	2	2	4	4	8		7
41 Cancer of peritonæum, intestines, rectum	21					1	1	5	7	5	2		5	14		2		1	2	8		2	5		1	2	3	4	4	1	6
42 Cancer of female genital organs	11						1	3	5	1		1		11					3	3		2		1		2		2		2
43 Cancer of breast	6								2	3	1			6						2			2					2	1		2
45 Cancer of other organs or organs not specified	29				2	3	3	3	4	5	7	2	19	10			1	1	2	6			16	1		2	2	15	4		9
46 Other tumors (tumors of female genital organ excepted)	10			1		2	3	3		1			6	4			1			5			3			1		2	5		6

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DEATHS CLASSIFIED BY CAUSES, AGE, COLOR, SEX, WARDS AND PUBLIC INSTITUTIONS —(*Continued*).

ALL CAUSES.	Total Deaths	AGES.												COLOR.				WARDS.													
														White		Bl'k													Almshouse	Hartford Hosp.	St. P. Hosp.	Other Institut'ns	Non-Residents
		Under 1 Year	1 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	Over 90	Male	Female	Male	Female	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th					
47 Acute articular Rheumatism	2						1		1					2											1		1				
48 Chronic rheumatism and gout	5						1	2	1		1			2	2		1		2	1	1					1			1		
49 Scurvy	1	1													1									1					1		
50 Diabetes	20			1		3	1	3	2	5	4	1		10	10				1	1	8	2		4	1		3		4	6		6
51 Exophthalmic goitre	1					1								1						1											
53 Leuchæmia	1							1						1											1						
54 Anæmia, chlorosis	10					1	3	1	1	3	1			4	6					1	3			3	1	1	1		2	3		3
55 Other general diseases	5	1	1	2							1			1	4						1		1	3					1	1		1
56 Alcoholism (acute or chronic)	12					3	5	2	1	1				10	1	1		1		1	8	1		1				7	1			2
II.—Diseases of the Nervous System and of the Organs of Special Sense	165																														
60 Encephalitis	1									1				1							1							1				
61 Meningitis	5	1	1		1	1				1				2	3			1			1			1	1		1		1	1		1
61a Simple meningitis	9	1	4	1		1			1	1				3	6			1			4			3			1		3	4		2
61b Cerebrospinal meningitis (undefined)	5	2	1			1	1							4	1						1			3	1				2	1		
61c Cerebrospinal fever	3			1	1	1								2	1			1						2					2			
62 Locomotor ataxia	4							2	1	1				3	1						3			1				1	1	1		
63 Other diseases of spinal cord	1										1			1							1											
64 Cerebral hæmorrhage, apoplexy	113	3				2	4	10	25	26	30	13		56	55		2	1	2	8	38	3	5	31	9	5	11	10	16	19	5	21
65 Softening of the brain	1												1		1								1									
66 Paralysis without specified cause	5	1				1			1	1	1			2	3			1			3			1				1	1	2		2
67 General paralysis of the insane	3							1	2					3							1			2							2	1
68 Other forms of mental alienation	4						1	1	1	1				1	3					1	1			2					1	1		3
69 Epilepsy	2			1					1					1	1						1			1							1	1
71 Convulsions of infants	5	5												3	2			2	1		2								1			1
73 Neuralgia and neuritis	1								1						1												1					
74 Other diseases of nerv. system	3					1		1	1					2	1						1			1			1		1			1

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DEATHS CLASSIFIED BY CAUSES, AGE, COLOR, SEX, WARDS AND PUBLIC INSTITUTIONS—(*Continued*).

ALL CAUSES.	Total Deaths	AGES.												COLOR.				WARDS.													
		Under 1 Year	1 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	Over 90	White Male	White Female	Bl'k Male	Bl'k Female	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th	Almshouse	Hartford Hosp.	St. F. Hosp.	Other Institu's	Non-Residents
110 Other diseases of intestines	5	1			1		2	1						2	3						2			2	1			2	1		2
113 Cirrhosis of liver	22						3	5	9	2	3			13	9			2	1		9	1	1	4	4			2	1	6		4
114 Biliary calculi	4								2	2					4								1	3					1		3
115 Other diseases of liver	5	1				2				1	1			2	3					1	1	1		1	1					1	1	1
117 Simple peritonitis (nonpuerperal)	9				1		1	1	4	1			1	5	4						3			5		1			5	3		3
VI.—Nonvenereal Diseases of Genito-Urinary System and Annexa....**145**																															
119 Acute nephritis	23	1			1	1	4	5	5	2	3	1		10	13			1		2	15		1	4				5	3	8	1	6
120 Bright's disease	108				1	1	4	7	9	26	30	24	6	66	42			2	3	8	49	3	2	18	8	7	8	17	9	28		26
122 Other diseases of the kidneys and annexa	3	1							1			1		3							1			1		1			1		
123 Calculi of urinary passages	1							1						1							1								1		1
124 Diseases of bladder	1											1		1												1					
126 Diseases of the prostate	6				1					2	1	2		6						1	1			3		1			1		1
129 Uterine tumor (noncancerous)	1						1								1									1					1		
130 Other diseases of the uterus	1							1							1						1									1	1
132 Salpingitis and other diseases of the female genital organs	1							1							1						1								1		
VII.—The Puerperal State.....**26**																															
134 Accidents of pregnancy	11	6				1	4							4	7			3			6			2				1	2	5		4
135 Puerperal hæmorrhage	2						2								2						1			1					1	1		
137 Puerperal septichæmia	7				1	4	2								7						5			2				1	1	4		2
138 Puerperal albuminuria and convulsions	5		1			1	3							1	4				1		2			2					1	2		
140 Following childbirth (not otherwise defined)	1							1							1									1					1		

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DEATHS CLASSIFIED BY CAUSES, AGE, COLOR, SEX, WARDS AND PUBLIC INSTITUTIONS.—(*Continued*).

ALL CAUSES.	Total Deaths.	AGES.												COLOR.				WARDS.										Almshouse	Hartford Hosp.	St. P. Hosp.	Other Institu's	Non-Residents
		Under 1 Year	1 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	Over 90	White Male	White Female	Bl'k Male	Bl'k Female	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th					
XIII.—External Causes	147																															
155 Suicide by poison	6					2	3				1			5	1						2			2	1	1				2	2	1
156 Suicide by asphyxia	7					2	3		1	1				4	3					3		1		1	1		1					
157 Suicide by hanging, strangulation	2						1	1						1	1			1			1										1
158 Suicide by drowning	2						1			1				1	1			2														1
159 Suicide by firearms	3					2	1							3				1						2						1		
165 Other acute poisonings	5			1		1		1	1	1				5							4		1							3		
166 Conflagration	1						1								1							1										
167 Burns (conflagration excepted)	12		4			1	2	2			2	1		5	6		1	1			5			5	1					5	5	5
168 Absorption of deleterious gases (conflagration excepted)	13	1			3	1	1	2	3		2			10	3			1	2		3	1	1	1	1	1	2					
169 Accidental drowning	6				1	2	3							6				5	1													
170 Traumatism by firearms	1				1										1											1					
172 Traumatism by fall	28		2			1	5	9	3	2	3	3		22	6				1		15		2	9	1			3	9	12		8
175a Railroad accidents and injuries	21				4	5	5	4	1	2				21				1		1	12					3	4			10		10
175b Street-car accidents and injuries	3				3									2	1						1			1			1		1	1		
175c Automobile accidents and injuries	11			2	1		1	3	1	1	2			10	1						5			6					6	5		2
175d Injuries by other vehicles	5	1						1	2	1				4	1						1	1	2	1					3	1		1
175e Landslide, other crushing	2				1	1								2								1				1						1
179 Effects of heat	4	1	1			1					1				4			1	1					1		1			1			1
181 Electricity (lightning excepted)	1								1					1								1										
185 Fractures (cause not specified)	3						1					2		2	1				1		2								1		1	1
186 Other external violence	5	1				1	2	1						4		1		1		1	2		1							2		3
182 Homicide by firearms	6			1	1	2	2							4	2						4			2					2	3		
XIV.—Ill-Defined Diseases	2																															
187 Ill-defined organic disease	1							1						1				1														
188 Sudden death	1						1							1					1													
Total	1861	392	151	38	61	121	156	194	214	218	212	95	9	1018	807	20	19	127	80	143	506	42	64	490	138	70	111	124	340	362	53	350

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DEATHS BY MONTHS AND WARDS.

MONTHS.	WARDS.										
	1	2	3	4	5	6	7	8	9	10	Total
January,	7	3	7	51	..	3	49	15	5	9	149
February,	8	10	11	51	4	3	47	14	7	9	164
March,	19	8	15	68	5	6	56	23	5	13	218
April,	15	10	9	53	1	3	43	5	6	12	157
May,	10	8	3	38	4	4	36	9	12	7	131
June,	14	4	10	34	2	10	39	11	3	11	138
July,	10	7	17	52	2	4	39	10	3	5	149
August,	10	2	28	45	2	5	39	6	8	8	153
September,	9	6	13	60	2	5	40	6	6	14	161
October,	13	6	13	38	5	8	37	16	4	6	146
November,	6	8	8	53	..	5	32	11	7	8	138
December,	6	6	9	55	9	7	40	12	5	8	157
Total,	127	78	143	598	36	63	497	138	71	110	1861

DEATHS BY CIVIL CONDITIONS.

Single	877
Married	598
Widowed	363
Divorced	8
Unknown	15
Total	1861

NATIVITY OF DECEASED.

Non-residents	350
Residents	1,511
	1,861
Connecticut	983
Other States	277
England	30
Ireland	227
Scotland	15
Canada	31
Germany	62
Italy	67
France	4
Sweden	30
Russia	58
All others	52
Unknown	25
	1,861

NATIVITY OF PARENTS OF DECEASED.

United States	537
England	25
Ireland	376
Scotland	20
Canada	30
Germany	75
Italy	154
Sweden	43
Russia	126
France	4
All others	100
Mixed	32
Unknown	220
Father foreign	64
Mother foreign	55
	1,861

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OCCUPATIONS OF DECEASED.

Agents,	1
Artists and Architects,	2
Bakers,	4
Bankers, Brokers and Officials,	6
Barbers,	7
Blacksmiths and Wheelwrights,	4
Bookkeepers,	7
Butchers,	6
Carpenters and Builders,	25
Cigar Makers and Tobacco Workers,	10
Clergymen,	2
Clerks,	24
Conductors,	3
Cooks and Chefs,	4
Dentists,	1
Domestics and Servants,	9
Dressmakers, Milliners and Seamstresses,	4
Liverymen, Drivers and Expressmen,	32
Druggists and Pharmacists,	2
Electricians,	3
Engineers, Firemen (Locomotive),	6
Factory and Mill Hands,	53
Farmers,	32
Gardeners,	5
Harness Makers and Leather Workers,	1
Hotel and Boarding-house Keepers,	4
Housekeepers,	311
Insurance,	2
Janitors,	17
Laborers,	127
Lawyers,	4
Liquor Dealers and Bartenders,	4
Machinists,	40
Manufacturers,	3
Masons and Stone Workers,	8
Mechanics,	12
Merchants,	15
Moulders and Foundry Workers,	5
Musicians and Music Teachers,	4
Nurses,	4
Painters, Decorators, Paperers,	7
Patternmaker and Woodworker	1
Peddlers,	5
Physicians,	1

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Plumbers,	4
Policemen and Firemen (City),	5
Printers and Bookbinders,	8
R. R. Employees,	17
Retired,	41
Salesmen, Saleswomen,	7
Shoemakers,	6
Students,	36
Tailors and Tailoresses,	6
Teachers,	8
Tinsmiths,	1
Unclassified,	28
None,	867
Total,	1861

MARRIAGES BY MONTHS.

January,	97
February,	103
March,	50
April,	122
May,	102
June,	179
July,	92
August,	140
September,	126
October,	178
November,	154
December,	95
Total,	1438

NATIVITY OF BIRTHS.

Both parents American,	1029
" " English,	23
" " Irish,	182
" " Scotch,	22
" " Canadian,	37
" " German,	30
" ,, Italian,	511

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Both parents Swedish,	82
" " Russian,	847
" " French,	1
Other foreign countries,	278
Mother American, father foreign,	245
Father American, mother foreign,	180
Both parents of different foreign nationalities,	184
Parentage unknown,	4
Total,	3100

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Births for 1912, 3,100 TABLE OF BIRTHS. Rate per 1,000, 29.11.

	January	February	March	April	May	June	July	August	Septemb'r	October	November	December	Total
White Males	126	129	143	105	136	125	145	133	136	124	124	128	1554
White Females	123	125	153	107	91	121	125	143	129	132	125	119	1493
Total White Births	249	254	296	212	227	246	270	276	265	256	249	247	3047
Black Males	6	5	2	4	3	2	...	4	2	1	1	3	33
Black Females	...	2	4	...	3	2	...	2	...	4	2	1	20
Total Black Births	6	7	6	4	6	4	...	6	2	5	3	4	53
Mixed Males	...	...	...	...	...	...	...	...	...	...	..	...	...
Mixed Females	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Mixed Births	...	...	..	...	...	...	...	...	...	...	...	...	...
Grand Total Births	255	261	302	216	233	250	270	282	267	261	252	251	3100

		Colored	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored	White
Stillbirths	Male,	...	2	...	7	...	7	1	5	..	5	...	2	...	8	...	4	...	5	...	5	...	4	...	4	1	58
	Female,	...	2	...	3	1	4	...	4	...	4	...	3	...	5	..	2	...	6	...	7	..	6	...	3	1	49
No. of Twins	Male,	...	2	2	3	...	7	...	2	...	4	...	1	...	3	..	2	...	3	...	5	...	1	...	...	2	33
	Female,	...	2	...	3	...	3	...	4	...	2	...	1	...	3	...	..	..	3	...	3	...	3	...	...	...	27
Illegitimate	Male,	..	2	2	3	1	3	..	2	...	...	...	3	...	2	2	3	...	2	..	1	...	...	...	2	5	23
	Female,	...	3	...	4	2	4	...	1	1	...	...	2	...	1	1	..	...	1	1	4	..	1	...	5	5	26

Total stillbirths, 109. Twins, 62. Illegitimate, 59. Triplets, 3.

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COMPARISON OF MORTALITY STATISTICS BY POPULATION AND PERCENTAGES.

	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899
Estimated Population	102,727	100,821	98,915	97,019	95,123	93,227	91,321	90,425	88,529	86,623	84,721	83,825	81,924	76,000
Total Deaths	1,861	1,849	1,748	1,586	1,459	1,653	1,589	1,526	1,499	1,395	1,301	....	....	....
Non-Residents	350	320	309	255	201	244	199	165	153	172	134	....	....	....
Residents	1,511	1,529	1,439	1,331	1,258	1,409	1,390	1,361	1,346	1,223	1,167	1,198	1,312	1,430
Number of deaths per 1000	14.70	15.16	14.54	13.71	13.22	15.11	15.22	15.05	15.41	14.12	13.77	14.24	16.01	18.80
Deaths from General Diseases	456	420	448	447	377	432	415	459	428	392	289	158	247	277
Per cent. to total mortality	24.50	22.71	25.62	28.18	25.83	26.13	26.12	30.08	28.55	32.05	24.76	11.98	18.82	18.12
Deaths from Diseases of Nervous System	165	158	169	150	155	143	158	144	131	150	171	219	231	212
Per cent. to total mortality	8.86	8.54	9.66	9.45	10.63	8.65	9.94	9.44	8.74	12.26	14.64	18.28	17.60	14.80
Deaths from Diseases of Circulatory System	248	253	257	215	186	195	180	149	146	157	145	604	588	660
Per cent. to total mortality	13.32	13.68	14.70	13.55	12.82	11.79	11.33	9.76	9.74	12.83	12.50	50.38	44.81	40.62
Deaths from Diseases of Respiratory System	233	313	256	189	207	248	229	188	185	177	196	154	174	199
Per cent. to total mortality	12.52	16.92	14.64	11.91	13.77	15.00	14.41	12.32	12.34	14.48	16.79	12.85	12.50	13.90
Deaths from Violence	147	166	107	118	118	104	132	105	106	83	66	56	69	82
Per cent. to total mortality	7.89	8.97	6.12	7.44	8.08	6.29	8.31	6.88	7.07	6.79	5.66	4.68	5.25	5.08
All others	612	539	511	467	422	531	475	481	503	264	300	7	3	3

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AGE OF DECEDENTS.

YEAR.	AGE.							
	Under 1 Year	1 to 5	5 to 10	10 to 20	20 to 40	40 to 60	60 to 80	Over 80
1893	246	102	47	39	256	250	235	59
1894	193	78	18	35	174	209	193	51
1895	243	18	19	42	183	187	211	67
1896	317	161	39	34	221	192	226	67
1897	259	71	31	40	226	213	245	70
1898	313	110	38	41	248	219	258	80
1899	343	105	47	56	274	249	290	66
1900	303	102	38	48	246	245	254	76
1901	232	93	41	68	220	240	239	65
1902	213	116	45	56	233	269	291	78
1903	243	116	39	60	268	296	300	73
1904	283	106	42	66	300	297	316	89
1905	288	105	55	65	298	322	303	90
1906	281	102	29	55	330	347	345	100
1907	292	99	24	60	298	385	388	107
1908	273	81	31	59	273	333	336	73
1909	245	75	26	69	318	398	361	94
1910	286	118	36	71	315	381	431	110
1911	305	130	35	53	306	445	466	109
1912	392	151	38	61	277	408	430	104

MORTALITY COMPARISON OF CHILDREN UNDER FIVE YEARS.

	YEAR.																
	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896
No. of deaths under 5 yrs.	543	435	404	320	351	391	383	393	389	359	327	325	405	448	423	330	478
Per cent. of total mortality	29	23	23	20	24	23	24	26	26	29	28	27	31	31	32	29	38

COMPARISON OF VITAL STATISTICS.

Year.	Living Births.	Per M.	Marriages.	Per M.	Deaths.	Per M.	Still-births.	Illegitimates.
1906	2,159	22.73	988	10.40	1,390	15.22	82	49
1907	2,215	23.53	987	10.48	1,409	15.11	79	43
1908	2,372	24.68	858	8.33	1,258	13.22	79	35
1909	2,196	22.42	959	9.13	1,331	13.71	97	40
1910	2,410	24.36	1,055	10.66	1,439	14.54	105	41
1911	2,686	26.64	1,237	12.26	1,529	15.16	97	65
1912	2,991	29.11	1,438	13.99	1,511	14.70	109	59

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COMPARISON OF MORTALITY STATISTICS BY DISEASES.

	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897
Typhoid Fever	13	20	19	10	19	17	29	17	11	16	13	25	25	30	27	19
Malarial Fever	...	...	...	...	...	0	0	1	0	2	4	6	4	10	2	3
Measles	12	3	16	...	11	6	3	4	2	13	7	3	1	12	5	1
Scarlet Fever	30	21	6	4	11	5	4	2	3	13	25	13	2	1	3	3
Whooping Cough	9	15	4	7	7	6	26	3	7	17	7	1	9	18	8	18
Diphtheria	42	38	32	16	16	18	15	64	28	31	16	35	51	63	20	28
La Grippe	7	8	13	6	13	14	10	9	24	9	3	12	42	39	38	..
Tuberculosis	78	102	139	174	126	179	156	173	140	139	115	125	146	144	121	147
Cancer	118	110	94	88	72	98	70	82	73	70	38	67	50	45	41	42
Other General Diseases	147	103	125	71	102	147	102	104	...	25	31	27	31	29	48	25
Diseases of Nervous System	165	158	169	148	155	143	158	144	131	150	171	148	152	175	168	161
Diseases of the Circulation	248	253	257	215	186	195	180	149	118	157	92	101	81	100	103	85
Bronchitis	17	20	22	21	30	22	32	20	50	19	31	30	29	26	23	35
Pneumonia & Broncho-Pneumonia	201	238	223	158	157	208	174	148	120	142	138	123	155	158	153	134
Diarrheal Diseases	126	73	90	98	69	101	93	82	95	49	41	54	108	111	132	91
Diseases of the Digestion	80	98	92	77	129	90	193	175	185	147	140	59	52	62	62	21
Diseases of the Kidneys	134	142	116	134	118	116	92	84	101	94	131	84	76	88	82	66
Infantile Debility	185	130	84	83	99	76	83	93	90	86	74	92	99	106	107	78
Old Age	38	46	33	27	29	47	39	54	56	48	53	53	55	82	58	38

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CONTAGIOUS DISEASES BY MONTHS.
RESIDENTS ONLY.

DISEASES.	January	February	March	April	May	June	July	August	September	October	November	December	Total	Deaths
Tuberculosis	15	21	14	26	34	22	24	19	11	25	23	18	252	70
Diphtheria	38	24	25	27	29	37	9	16	27	40	33	38	343	37
Typhoid Fever	3	1	...	1	1	3	1	11	6	15	17	17	76	4
Scarlet Fever	31	31	30	34	30	18	9	9	10	31	74	85	392	21
Chicken Pox	17	15	24	4	9	1	1	...	...	...	5	15	91	...
Measles	...	7	17	96	173	132	133	19	4	16	31	35	663	12
Whooping Cough	14	17	5	10	13	4	...	...	..	1	1	4	69	9
Erysipelas	3	7	4	9	2	3	...	1	...	4	1	3	37	1
C. S. Meningitis	...	..	1	1	...	...	...	..	...	...	...	1	3	3
Mumps	1	1	...	2	3	...	...	...	...	..	...	...	7	...
Anterior Polyomyelitis	...	...	...	...	1	...	..	...	...	2	...	..	3	...
Ophthal. Neonatorum	1	...	...	...	...	...	...	...	..	..	.	...	1	...
Total	123	124	120	210	295	220	177	75	58	134	185	216	1937	157

CONTAGIOUS DISEASES BY WARDS

DISEASES.	WARDS.										Non-Residents	Total
	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th		
Tuberculosis	34	12	29	42	18	17	25	32	23	20	2	254
Diphtheria	45	20	53	29	8	35	61	35	22	35	8	351
Typhoid Fever	7	1	8	18	1	3	9	14	9	6	27	103
Scarlet Fever	10	21	50	26	4	32	62	101	48	38	20	412
Chicken Pox	9	4	10	8	...	4	16	14	11	15	1	92
Measles	45	14	112	92	5	38	143	78	70	66	11	674
Whooping Cough	6	1	..	5	...	1	4	21	6	25	..	69
Erysipelas	6	7	3	2	3	1	3	5	3	4	1	38
Cerebro-Spinal Meningitis	...	...	...	...	...	...	2	...	1	...	..	3
Mumps	...	2	2	...	...	...	3	...	...	...	...	7
Anterior Polyomyelitis	1	1	...	...	...	...	1	...	...	...	...	3
Ophthalmia Neonatorum	...	...	...	1	...	...	..	...	...	...	...	1
Total	163	83	267	223	39	131	329	300	193	209	70	2007

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COMPARISON OF CASES REPORTED AND DEATHS.

Year Ending	Diphtheria		Scarlet Fever		Typhoid Fever	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Feb. 28, 1902,	307	35	257	13	88	25
Feb. 28, 1903,	183	19	537	31	61	13
Dec. 31, 1903,	158	30	283	13	60	16
Dec. 31, 1904,	235	26	112	3	73	11
Dec. 31, 1905,	411	56	91	2	198	17
Dec. 31, 1906,	271	12	161	4	159	29
Dec. 31, 1907,	214	18	227	5	100	13
Dec. 31, 1908,	245	15	250	11	173	19
Dec. 31, 1909,	257	11	116	4	83	10
Dec. 31, 1910,	415	27	236	6	144	19
Dec. 31, 1911,	446	38	489	21	147	20
Dec. 31, 1912	351	42	412	30	103	13

EXCLUSIONS FROM SCHOOLS BY MEDICAL INSPECTORS.

DISEASES	Jan.	Feb.	Mar.	Apr.	May	Jun.	Sep.	Oct.	Nov.	Dec.	Total
Measles	....	....	....	2	4	4	...	....	2	....	12
Diphtheria	2	1	1	2	....	4	1	3	2	....	16
Mumps	....	3	2	....	....	....	....	....	....	....	5
Skin Diseases	16	16	18	13	25	13	31	31	49	18	230
Parasitic Diseases	38	42	28	39	56	24	45	113	108	67	560
Miscellaneous	10	5	4	11	25	3	9	10	20	14	111
Chicken Pox	1	3	5	1	2	1	....	....	....	....	13
Scarlet Fever	1	....	....	....	1	1	....	....	1	....	4
Total	68	70	58	68	113	50	86	157	182	99	951

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REPORT OF THE BACTERIOLOGIST FOR 1912.

Hartford, Conn., March 1, 1913.

To the Honorable Board of Health Commissioners,
Hartford, Connecticut.

Gentlemen:—

I have the honor of submitting herewith my report of the work done in the laboratory during the year ending December 31, 1912:

The total number of examinations made were 4,123. These are divided as follows:

Number of serum cultures examined	1,275
Number of specimens of blood for the Widal test	160
Number of specimens of sputum examined for the presence of the tubercle bacillus	171
Samples of milk examined	2,336
Bacteriological examinations of milk	100
Bacteriological examinations of water	37
Examinations of milk for preservatives	4
Refractometric examinations of milk for added water	40
Total	4,123

This does not include a great many samples of water and ice which have been examined in the course of our work, and which have been reported upon as to their fitness for domestic use, and of no interest from the health standpoint.

The work has been divided as follows:

FOR THE DIAGNOSIS OF DIPHTHERIA.

Number of cultures examined		1,275
First cultures examined	960	

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Second cultures examined	209	
Third cultures examined	70	
Fourth and more cultures examined	36	
Total	——	1,275
Number of cultures sent in from the city		1,104
Number of cultures sent in from out of town		8
Number of cultures sent in from the schools		163
Total		1,275
Klebs-Loeffler bacilli found in city cultures	238	
Klebs-Loeffler bacilli found in school cultures	20	
Klebs-Loeffler bacilli found in out-of-town cultures	2	
No Klebs-Loeffler bacilli found in city cultures	866	
No Klebs-Loeffler bacilli found in school cultures	143	
No Klebs-Loeffler bacilli found in out-of-town cultures	6	
Total	——	1,275

The total number of cultures examined show a falling off in comparison with that of last year, and this is entirely due to the fact that diphtheria is decidedly more rare than formerly and the disease is diminishing in frequency, due, not only to the care of the Board in its management, but mostly to the intelligent treatment of the physicians in the use of antitoxine for the cure and timely prophylaxis of this fearful malady of a few years ago. This fact illustrates more than lengthy descriptions can, the utility of the health board laboratory, and the increasing intelligent care being taken by the public in the management of infectious diseases.

This work has shown that the people are alive to the necessity of using the laboratory for the determination of the presence of the diphtheria germ, and then it looks to the health authorities to prevent the disease establishing itself at all, if possible. The value of the precept that prevention is better than cure is becoming fully recognized, and people are in earnest in supporting the physicians in their fight against infection, and are demanding most urgently of health boards to be saved from the infliction of those evils which they are assured, both by experience and analogy, can be prevented if proper means is adopted at the right time. Here is where the laboratory gives to the public its best work.

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WIDAL'S BLOOD REACTION FOR TYPHOID FEVER.

Number of specimens of blood examined		160
Positive reactions obtained	30	
Indecisive reactions obtained	30	
Negative reactions obtained	100	
Total	——	160

With the decrease in the number of cases of typhoid fever as compared with last year and the year before, there was also a decrease in the number of the Widal tests, and it is interesting to note that there were only 30 positive reactions obtained in 160 tests, a very small proportion as compared with former years.

EXAMINATION OF SPUTUM FOR THE TUBERCLE BACILLUS.

Number of specimens of sputum examined		171
Number in which tubercle bacilli were found	44	
Number in which tubercle bacilli were absent....	127	
Total	——	171

As I have frequently remarked, this branch of our laboratory work has but limited utility, for the reason that many physicians simply use it for the purpose of diagnosis by exclusion, and many people are suffering with advanced tuberculosis who have never had their sputum examined, as they should be compelled to do, and so are walking about a constant menace to others who deserve protection. When the Board of Health can obtain complete control of the tuberculosis situation, and the public understands the danger and insidious character of the infection spread by the sufferer with tuberculosis, our laboratory will be of incalculable assistance, and for that reason, I am happy to do as much labor in this direction as is demanded, for the sake of the good it will do in the near future.

The report of the milk work done is made by our able assistant, Dr. Arthur C. Heublein, and speaks for itself of the painstaking interest in this important investigation by both Doctor Heublein and Mr. Hagarty. I wish to thank the Doctor for his faithful work, and also Mr. Hagarty for the effective support he has given us in the laborious detail which cannot effectively be seen in this short report.

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In conclusion, I beg to thank the members of this Board for the kindly support they have given me in the carrying out of the details of my duties.

Respectfully submitted,

ARTHUR J. WOLFF, M.D.,

Bacteriologist.

REPORT OF THE MILK BACTERIOLOGIST FOR THE YEAR ENDING DECEMBER 31, 1912.

Hartford, Conn., March 1, 1913.

To the Bacteriologist of the Board of Health,

Hartford, Connecticut.

Sir:—

I have the honor to present the annual report of the milk analyses performed at the Board of Health laboratory during the year ending December 31, 1912.

Below is tabulated in detail a report covering the year's work of this department:

I.	Total number of samples submitted		2,336
	1. Number of samples of milk	2,297	
	2. Number of samples of cream	2	
	3. Number of samples of water	37	
	Total		2,336
II.	Total chemical examinations of milk		2,297
	1. Number testing in specific gravity below 1,030	24	
	2. Number testing in fat below 3.25 per cent.	53	
	3. Number testing in total solids, below 11.75 per cent.	28	
	4. Number testing in solids, not fat, below 8.50 per cent.	40	
III.	Total bacteriological examinations of milk		100
	1. Number showing excessive bacterial growth	24	
	2. Number showing positive reaction in Kasheda's medium	3	
IV.	Total bacteriological examinations of water		37
	1. Number showing excessive bacterial growth	6	

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	2. Number showing positive reaction in Kasheda's medium	5	
V.	Total examinations for detection of preservatives...		4
	1. Number showing presence of same	0	
VI.	Total refractometric examinations for added water		39
	1. Number showing adulteration with same....	17	
VII.	Total examinations for visible dirt in milk..... (Wisconsin Sediment Milk Tester.)		1,738
	1. Number showing excessive amount.....	210	
	2. Number showing small amount	272	
	3. Number showing no visible dirt.....	1,256	
VIII.	Percentage results of samples of milk found deficient:		

Year	Fat below 3.25%	Sp. Gr. below 1030	Solids below 11.75%	Solids not fat below 8.50%	Excessive Bacteria	Kasbeda's Pos.	Preservative Present	Added Water	Visible Dirt
1911	2.56	2.66	1.92	3.35	40.37	8 07	0	1.50	
1912	2.30	1.04	1.22	1.74	24 00	.21	0	.74	.28

Each year there has been a steady increase in the number of samples analyzed, this year exceeding our previous record by 267. There were a smaller number deficient than in any preceding year, the only exception being in the fat content which showed a slightly lower percentage in 1910. This is readily explained by the poor pasturage for cattle during a large part of the summer.

Beginning the middle of March we first used the milk sediment test for the detection of visible dirt and we have found this method a great asset in securing a clean milk supply. Since the first of April, 1,738 samples have been submitted to this test. To illustrate what a marked improvement has taken place in a very few months: In our first month, March, 38 samples examined showed a total of 38 containing visible dirt, or 100 per cent., while during our last two months out of 185 and 165 samples respectively, 17 showed visible dirt or approximately only 9 per cent. To the average producer and dealer the number of bacteria per c. c. means very little, whereas a filter showing the actual amount of dirt in a pint or half-pint of milk demonstrates to them conclusively the need of caring for their milk under more sanitary conditions.

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With Mr. Hagarty's efficient co-operation these filters have been a strong factor in bringing about a decided improvement in the cleanliness of our supply. With this improvement in the amount of visible dirt, there has been a decided decrease in the bacterial count, the percentage being approximately one-half as great as last year. There has been very little adulteration of milk by the addition of water—only .74 per cent. for the year. This low figure has been made possible by the vigorous prosecution of dealers watering their supply as well as the elimination of producers who send watered samples into the city.

I think we can say conservatively that this year represents the cleanest and most standard supply since the opening of this department.

Respectfully submitted,

ARTHUR C. HEUBLEIN, M.D.

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REPORT OF MILK INSPECTOR.

Hartford, Conn., March 1, 1913.

To the Honorable Board of Health Commissioners,

Hartford, Connecticut.

Gentlemen:—

I have the honor to present to you the following report of work done in the milk inspection department for twelve months ending December 31, 1912:

Inspections	2,181
Inspections of dealers who produce no milk	979
Inspections of producers	1,034
Inspections miscellaneous	168
Notices given (verbal)	434
Notices given (written)	436
License applications	172
Licenses granted	171
Samples of milk taken	2,297
Samples of cream taken	2
Samples of water taken	29
Samples of milk below standard	99
Samples of milk below standard in fat 3.25 per cent.	53
Samples of milk below standard in solids 11.75 per cent.	28
Samples of milk below standard in solids not fat 8.50 per cent.	40
Milk dealers below standard	90
Prosecutions	9
Cattle condemned and destroyed	4
Milk condemned	0
Wells found contaminated	9

During the year it was necessary to prohibit some milk producers from shipping milk to Hartford on account of the unsanitary conditions of their barns. Most of these have caused the required changes to be made, either by repairing their barns or building new ones, and in a number of cases new milk rooms have been built on farms where none previously existed.

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A few who failed to comply with the instructions along these lines have been obliged to discontinue sending milk to Hartford. Many barns have also been cleaned and whitewashed from time to time by my direction, and I have caused additional windows to be placed in others for purposes of light and ventilation.

I have been successful during the year in getting quite a number of dealers to put in steam boilers for washing bottles, cans, etc., and it is my intention to continue the effort in this direction until all are equipped with suitable boilers, as it is practically impossible to clean bottles and cans in large quantities unless a boiler into which live steam can be introduced is available.

All milk producers are now instructed to strain their milk through a special cloth before sending it to the city, and the result is very satisfactory. Tests made prior to the installation of the new straining system showed that out of 199 samples of milk tested, 109 were dirty; while out of 150 samples tested in January, 1913, only five samples were found dirty. This result is exceedingly gratifying and shows that the producers and dealers are making an earnest effort to comply with the regulations of this Board concerning the production and marketing of milk.

Some trouble has been experienced during the year concerning milk adulterated with water. In a number of cases I have, with the assistance of the State Dairy Commissioners, had samples taken on farms from which the supply came, and have had the producers prosecuted in the towns where they reside and where the offense was committed. This is a matter that needs constant watching, and it frequently presents the difficulty of deciding whether the milk is adulterated by the producer or the vendor. In such cases I find the assistance of the State Commissioner very helpful.

Since my last report I have taken samples of water from 29 wells on farms where milk is produced and have found that nine of the samples were contaminated. The owners of these wells were notified to discontinue their use.

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Taken as a whole the work of the year has greatly improved the quality of milk sold in Hartford, and has made the surroundings in which the milk is produced more sanitary and cleanly. Cattle are being kept in barns which are much better built, and much better ventilated, lighted, and cleaned than formerly; the milk is handled to a large extent in specially prepared milk rooms; bottles and cans are being kept cleaner, and producers and dealers are being converted to a disposition to comply with such suggestions and orders as are made for the betterment of all the conditions surrounding the production and sale of milk to be consumed in Hartford.

Respectfully submitted,

JOSEPH HAGARTY,

Milk Inspector.

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REPORT OF FOOD INSPECTOR.

Hartford, Conn., March 1, 1913.

To the Honorable Board of Health Commissioners,
Hartford, Connecticut.

Gentlemen:—

I have the honor to present to you the following report of work done in the food inspection department during the 12 months ending December 31, 1912:

Inspections	9,082
Goods condemned in	156 stores
Meat exposed on street	1 store
Meat condemned	1,690 lbs.
Dried fruits	224
Ice boxes cleaned	80
Soda water	16 bottles
Pickles and jelly	618 lbs.
Butter and cheese	63 lbs.
Fish	366 lbs.
Fruits and vegetables	65,663 lbs.
Eggs	45 2-12 doz.
Candy	305 lbs.
Canned goods	672 cans
Flour and cereal	805 lbs.
Prosecutions	9
Miscellaneous	554
Total amount of goods condemned	71,439 lbs.

Under the head of miscellaneous there were 294 notices sent out for improvement, of which 263 have been complied with up to Jan. 1, 1913.

Since the last annual report there has been an improvement in all lines of business under the supervision of this department. The addition of a new inspector, Mr. Frank Shea, has been a great help.

Bakeries are in good condition with the exception of two, which have been notified to make alterations.

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CANDY FACTORIES.

Candy factories and candy kitchens are in sanitary condition.

SODA WATER.

The manufacture of this product is now in sanitary condition.

ICE CREAM.

The manufacture of this product is now in good condition.

SAUSAGE FACTORIES.

The manufacture of this product is in good sanitary condition.

HOTELS, RESTAURANTS AND LUNCH CARTS.

The condition of this line of business is very satisfactory.

MEATS AND GROCERIES.

The condition of this line of business has improved.

FRUIT AND VEGETABLE PEDDLERS.

During the last year the Common Council has passed an ordinance licensing the peddlers, which has been a great help to the inspector and the public at large. There have been very few complaints since the passage of the ordinance.

SPOT AND ROT EGGS.

The last year there has been no trouble in this product.

HUCKSTER MARKET.

Last July a hucksters' market was located west of the boulevard on the plaza, where the vegetable and fruit growers dispose of their products to the peddlers, wholesalers, meat and grocery buyers. The amount of business transacted in a few hours each morning is enormous. This new feature is in an experimental stage and leaves lots of room for improvement. It was the intention to charge for space in the market, but as the space set off was inadequate to accommodate the number, it was decided best to wait until 1913, when space would be set off for each team. I would suggest that a lunch cart be located temporarily at the market.

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CHICKEN MARKET.

This market is held on Thursday of each week and is a very busy place from six o'clock until 10 o'clock a.m. Some of the men drive thirty miles to sell their poultry, eggs, butter, cheese and cream.

Starting the first of September your inspector kept track of the number of poultry brought in by the chicken men, which numbered for the four months 28,956 weighing 115,824 pounds.

Some provision should be made for the shelter of men and horses as they arrive at the market place between 2 and 3 o'clock in the morning and remain until 11 or 12 o'clock.

Since the section has been set apart for the chicken market, there have been brought to the market cattle, sheep and hogs, and I would suggest that scales be provided for the weighing of same.

Respectfully submitted,

T. F. FLANAGAN,
F. E. SHEA,
Inspectors.

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REPORT OF SANITARY INSPECTOR.

Hartford, Conn., March 1, 1913.

To the Honorable Board of Health Commissioners,
Hartford, Connecticut.

Gentlemen:—

We have the honor to present to you the report for the year ending December 31, 1912:

Number of inspections made	7,202
Number of premises found requiring attention	2,504
Number of notices served for abatement of nuisances	2,516
Number of notices served for defective buildings	467
Number of notices served for other nuisances	2,022
Number of notices for stable manure	82
Number of complaints of nuisances caused by fowls	22
Tenements inspected	3,320
Dirty halls	249
Plaster broken	752
Glass broken	1,143
Toilets out of order	313
Basements cleaned	94
Roofs leaking	73
Yards and alleys cleaned	418
Vaults abandoned	35
Tenements disinfected	816
Dead animals removed	59
Court convictions	12
Total number of nuisances abated since last report	2,176

The year 1912 was the most important in the history of the sanitary department, chiefly on account of the tenement-house law, the requirements of which we have carried out as far as circumstances would permit. In addition to the improvement in the sanitary condition through the enforcement of the tenement-house law, we can reasonably say that the city has been kept cleaner than in any previous year. The

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yards and alleys have been better taken care of, there has been a great improvement in the storage and removal of manure, the water closets have all been removed from cellars as fast as we have found them, and all but fifty-five of the privies and closets removed from the yards of tenement houses, and only ten of these are on streets in which there are sewers. Of these, five will be disposed of on the completion of the pumping station on Potter Street, and by the end of the present year we expect Hartford will be without a single outhouse on a street in which there is a sewer. An examination of the above table will show something of what has been added to the work of the department by the tenement-house law. The location of constantly changing owners of property, the sending of a large number of notices, and the detail of the card system by which we have a complete record of every complaint and inspection with the result obtained, have added much to the clerical side of the work.

The plumbing has been renovated in all of the lodging houses, and the number of beds reduced to comply with the tenement-house law. While landlords have been willing to comply with the law, it has been necessary for them to raise the prices of beds. The houses are kept in as sanitary condition as the class of tenants will allow. In a few houses some lodgers will be found occupying the same bed regularly. We are inspecting the places systematically and keeping them in a condition which we think is as sanitary as places of such a nature can be expected to be kept.

In addition to the items mentioned in the summary we have had sixty-one dark halls lighted either by putting translucent glass panels in the doors or by using artificial light. We have ventilated 127 interior rooms by the use of windows of at least eight square feet in size, opening into rooms having outside ventilation. Difficulty has been experienced in keeping halls clean. The tenants know that when halls are dirty, landlords will be notified to have them cleaned. In other ways they are damaging buildings, either carelessly or intentionally.

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knowing that the landlords will be required to put them in condition again. This leaves a loophole for the exercise of spite upon the landlord, and neglect in taking any responsibility in the care of common halls and yards. As a result landlords will be forced to employ janitors.

The "clean-up week" was of great assistance to the inspectors both in the spring clean-up and in enabling them to keep yards clean throughout the year. One of the serious offenses in regard to tenement-house conditions is the throwing of rubbish, garbage, etc., from windows of tenements and this custom is continually growing, not only in the poorer sections of the city, but even to a greater extent in the better class of apartment houses, especially where light housekeeping is done. The tenants as a rule cook their breakfasts and suppers in their apartments and then wrap up the garbage in papers and throw it out of the window. As a rule it is thrown into the yard of the adjoining house, either at one side or in the rear, and the Board of Health is obliged to compel the innocent owner of the adjoining property to clean up the garbage and refuse of the neighboring offender. This, of course, always creates a good deal of feeling, but it is the only remedy under the law unless the offender can be caught in the act.

In several instances we have found horses and poultry kept within twenty feet of inhabited houses and have had the owners move them. This is often considered a hardship, as they are compelled to pay rent for another barn, where their own could be used rent free.

We are glad to report a great improvement in the storage and removal of manure within the one and one-half mile limit of the city hall. Owners have concluded that we are enforcing the law and are complying with the notices sent them. It will, however, be difficult for them to move the manure in the summertime when farmers are busy and unable to take it away. It is possible that manure might be collected and carted away once a week by a contractor.

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With the great variety of complaints received for investigation, the number of inspections (which average three times before they can be marked completed), and the fumigations (which average three per day), it may be easily seen that two men can not satisfy the requirements of the city in all particulars, and that it must necessarily be the tenement-house law which will fail to get the systematic attention it needs at all times, because the fumigations and complaints must have attention first. Dr. Botsford has been of much assistance in taking some of the long-distance complaints, but withal another inspector is needed to handle the department properly, and we are glad that the Board of Commissioners has noted the necessity and asked for additional help.

Respectfully submitted,

HENRY S. STRONG,
Chief Sanitary Inspector.

DENNIS J. MURPHY,
Sanitary Inspector.

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REPORT OF PLUMBING INSPECTOR

Hartford, Conn., March 1, 1913.

To the Honorable Board of Health Commissioners,
Hartford, Connecticut.

Gentlemen:—

I have the honor to submit herewith the seventeenth annual report of the work done by the plumbing department of your Board for the year 1912:

It has been a busy year in this department, owing to the enforcement by the Board of the tenement-house law enacted by the legislature which became effective November, 1911, combined with the consistent growth in the building trades operations. In the case of old buildings, renovation of old and installation of new plumbing to meet the requirements necessitates much time and careful consideration, due in many cases to a complete change in their layout. Notwithstanding the assistance now received, the increased amount of work made necessary by this new activity in the renovation of old plumbing will soon justify the appointment of another assistant, thus giving time for the rapidly increasing amount of office work.

In my last annual report I stated that the amount of work and number of complaints increased proportionately with the growth of the city, also by the vigilant work of the inspectors of the other departments of your board, who report nuisances caused by defective plumbing, ventilation, drainage, etc., which must be remedied in order that the surroundings of the places wherein their work lies may be kept in a sanitary condition.

I believe that I would be justified in saying that the complaints increased far beyond my expectation, and the work has

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progressed so rapidly as to create a condition which brought in a class of mechanics, not only plumbers but those who build water-closet compartments, a few of whom would take the entire time of an inspector who, after laying out the work, would have to stay there most of the time to see that the instructions were carried out and the work properly done to meet the requirements of the tenement-house law.

But I must say that while this matter is well in hand there is still a considerable amount of work in this direction to be accomplished which, when completed, not only benefits the community at large, particularly in giving the poorer class of tenants privileges which they in no other way could enjoy, but also justifies the outlay to owners in the added valuation of their property. It would probably be well to state while on this subject that it is advisable to take this work up and prosecute it early in the spring, thus ensuring completion before cold weather sets in, thereby dispensing with much hardship to the poor, who not only find great difficulty in properly heating their tenements on account of their torn-up condition, but in many cases are forced to seek other quarters.

The work in the schools has continued principally in repairs necessary to maintain their present sanitary condition. Installation of new plumbing has in some cases been made, principally in the South School district, where shower baths have been installed in the different school buildings.

During the year ending December 31, 1912, there were issued 1,158 permits. Of this number 78 were for single or one-family residences, and 380 were for houses arranged for 1,441 tenements and apartments, making a total of 1,519 new homes provided for families, which is 96 more new homes than were provided during the twelve months of the year previous.

In addition to the above number of homes there were 18 old buildings remodeled so as to make 46 apartments, or small tenements, which added to the 1,519 new ones makes

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a total of 1,565 homes provided for families, which is 89 more than were provided the twelve months ending December 31, 1911.

There were 67 permits issued to do plumbing in new buildings, or new additions to old buildings, which will be used for other than residential purposes, namely:

Freight house, 1; factories and storehouses, 15; offices and business buildings, 6; club house and art buildings, 2; theatres, 2; stores, 14; milkrooms, 3; garages, 16; school, 1; hospital, 1; and six other buildings which will be used for miscellaneous lines of business.

There were 628 permits issued to remodel, renovate, or replace defective plumbing in old buildings which were used for miscellaneous purposes. Of this number 537 were used as residences, apartments, or tenement houses, having 1,778 apartments, residences, or tenements, and 108 stores; and 91 permits were issued for plumbing to be done on other buildings, barns, and for miscellaneous purposes.

Some of the principal buildings for which permits were issued in 1912 are the Municipal building, the Morgan Memorial, The Travelers Insurance Company, The Wise, Smith Company, the Bond Hotel, the Washington apartments on Washington Street, the Lorraine apartments on Farmington Avenue, the Board of Trade building on Hawthorn Street, the Gray Telephone Pay Station on Arbor Street, The Underwood Typewriter Company, The Perkins Electric Company on Woodbine Street, The Whitney Manufacturing Company, the Hartford Rubber Works on Bartholomew Avenue, and The Dettenborn Wood Working Company on Sheldon Street.

SUMMARY OF INSPECTIONS.

Total number of inspections	4,534
Inspections of new work	2,006
Inspections of old work	2,528
Applications to do plumbing examined	1,158
Permits issued to do plumbing in new buildings	530
Permits issued to do plumbing in old buildings	628

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Total number of permits issued to do plumbing	1,158
Plans examined and approved	719
Plumbing tested with water test	1,162
Plumbing tested with peppermint test	2
Defects found by tests and remedied	1,124
Defective vent pipes altered and defects remedied	228
Water closets (new), displacing unserviceable closets	1,493
Fixtures trapped and vented	2,475
Iron waste pipes displacing lead	192
Iron waste pipes extended through the roof	224
Iron soil pipes extended through the roof	550
Iron drain pipes displacing tile	410
Tile drains laid too near the foundation wall ordered out and relaid at a safe distance from same	18
Notices served to remedy defective plumbing	1,179
Number remedied since last report	1,117

BOARD OF EXAMINERS OF PLUMBERS.

As in other years the Board of Examiners held a meeting the last Friday of the month.

At these meetings 84 applicants for plumbers' licenses appeared and were examined orally and by chart; they were also given a practical test.

Of the number who tried, 50 passed a satisfactory examination and were given licenses to work as journeyman plumbers.

Of those who passed, five were obliged to take the examination the second time, and one tried three times.

The Board of Examiners consists of six members, represented as follows:—

Board of Health—President Thomas F. Kane.
Plumbing Inspector John H. Maloy.

Master Plumbers—Thomes S. Dowling.
Robert C. Speirs.

Journeyman Plumbers—Thomas A. Sweeney.
James Ellison.

Respectfully submitted,
JOHN H. MALOY,
Plumbing Inspector.

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REGISTRATION OF PLUMBERS UNDER ORDINANCE OF 1910.

Adams, Samuel G. .....322 Maple Avenue
Adams, Henry J. .....47 Hawthorn Street
Ahern, B. J. .....
Akerhurst, Albert J. .....1126 Park Street
Auger, William R. .....23 Barnard Street
Bassell, Clarence S. .....45 Kinsley Street
Beck, H. Frank .....East Hartford, Conn.
Birch, Richard .....21 Church Street
Birch, H. B. .....21 Church Street
Beck, Curt F. .....22 Governor Street, East Hartford, Conn.
Bassett, Philias .....26 Judson Street
Blake, W. F. .....50 Allyn Street
Benson, Harry .....278 Main Street, Middletown, Conn.
Bonner, Wm. H. .....184 Martin Street
Boyle, Dennis F. .....
Biehl, August .....
Buchanan, C. O. .....56 Bond Street
Brinton, J. P. .....184 Smith Street
Broderick, David F. .....26 Mortson Street
Burns, John J. .....22 Harrison Street
Burke, John J. .....1176 Main Street
Butler, Michael B. .....54 Charter Oak Street
Cadigan, Michael B. .....8 Imlay Street
Cadigan, Frank .....8 Imlay Street
Campbell, Frederick S. .....97 Hudson Street
Carey, John E. .....34 Franklin Avenue
Carolan, Peter C. .....18 Seyms Street
Carney, John .....
Cavanaugh, Thomas J. .....103 Mather Street
Clancy, John T. .....383 Windsor Street
Coboburn, Frank A. .....44 Village Street
Conran, Frank E. .....104 Putnam Street
Conway, Thomas K. .....114 Webster Street
Cooney, Francis J. .....366 Franklin Avenue
Cockburn, P. R. .....19A Buckingham Street
Collins, P. A. .....1113 Park Street
Corcoran, William E. .....8 Atlantic Street
Cosgs, Daniel M. .....51½ Woodbine Street
Crowther, J. P. .....52 Allyn Street
Cullen, Charles .....1224 Main Street
Cunningham, Michael J. .....228 Pearl Street
Coyle, James M. .....
Connor, Peter P. .....296 Garden Street
Cavanaugh, William J. .....14 Marlborough Street
Callan, Felix .....38 Grand Street

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Cope, Edward F. .....1119 Park Street
Clemens, James J. .....
Daley, P. H. .....1222 Main Street
Donnelly, James H. .....44 Brook Street
Donnelly, Thomas J. .....88 Buckingham Street
Downey, J. F. .....
Dowd, T. P. .....81 Trumbull Street
Dower, John J. .....241 Martin Street
Dowling, Thomas L. .....38 Francis Avenue
Duffy, James J. .....108 Governor Street
Duffy, James F. .....108 Governor Street
Dunn, John H. .....132 Babcock Street
Dunn, Thomas F. .....132 Babcock Street
Davidson, Robert .....118 Babcock Street
Day, Joseph H. .....
Doyle, John T. .....916 Main Street, East Hartford, Conn.
Desmarias, Henry .....254 Windsor Street
Donahue, C. .....20 Governor Street
Dibble, R. H. .....
Dunn, David A. .....
Dungan, Frank .....194 New Britain Avenue
Dinnen, John J. .....50 Allyn Street
Dwyer, Edward F. .....50 Allyn Street
Eisele, Harry .....54 Berlin Street
Ellison, James .....162 Franklin Avenue
Ellison, Frank D. .....775 Asylum Avenue
Epstein, Louis H. .....569 Front Street
Epstein, Otto .....34 Wells Street
Farrell, Daniel J. .....50 Park Street
Fay, Michael .....450 Main Street
Fenton, Patrick .....343 Main Street
Ferguson, Peter .....50 Park Street
Fitzgerald, Martin .....27 Putnam Street
Fitzpatrick, John .....343 Collins Street
Fitzsimmons, Bernard J. .....6 Clay Street
Flagg, H. K. .....374 Trumbull Street
Flynn, Daniel J. .....66 Green Street
Ford, Thomas A. .....20 Allyn Street
Franklin, Frederick .....107 Shultas Place
Farrell, James E. .....
Garvie, Robert .....40 Russ Street
Gatter, Sam .....26 Winthrop Street
Gibbons, Frank H. .....
Gaffey, Edward J. .....37 Dean Street
Gunning, Thomas .....41 South Hudson Street
Gaffney, Charles P. .....108 Pratt Street

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Garilli, Peter .....280 Asylum Street
Gast, Fred J. .....
Ginocchio, Louis .....548 Asylum Street
Glidden, George A. .....115½ Ann Street
Grazel, Louis .....South Manchester, Conn.
Gorodinsky, Israel .....Pleasant Street, East Hartford, Conn.
Grezel, Alfred.....34 Spruce Street, So. Manchester, Conn.
Hassett, William F. .....226 Putnam Street
Harrison, H. W. .....1243 Main Street
Hayden, William A. .....158 Mather Street
Hart, Thomas E. .....43 Tenth Street, Springfield, Mass.
Hurd, Austin E. .....14 Spring Street
Heibel, Christopher .....
Harrigan, John H. .....
Horan, William E. .....58 Dean Street
Hirtreiter, Max .....
Hills, John P. .....104 Jefferson Street
Hogan, W. B. .....30 Shultas Place
Hopper, John W. .....
Howle, E. J. .....
Hoye, Thomas H. .....87 Barbour Street
Hussey, Stephen L. .....138 Putnam Street
Haspey, William .....16 Affleck Street
Hogan, Thomas M. .....27 Dean Street
Henken, George P. .....
Hanson, John .....13 Washington Street
Johnson, Andrew J. .....
Johnson, Lawrence .....27 Mortson Street
Johnson, Reuben B. .....52 Allyn Street
Keating, Daniel J. .....25 Seyms Street
Keefe, T. J. .....166 Clark Street
Kiernan, Thomas F. .....16 Marlborough Street
Kelly, Edward A. .....50 Allyn Street
Kenney, Stephen .....163 Albany Avenue
Kilroy, Andrew .....255 Trumbull Street
Lacava, Joseph A. .....248 Windsor Street
Langdon, T. H. .....38 Madison Street
Lawler, John J. .....161 Franklin Avenue
Lawrence, William B. .....
Lenihan, John J. .....22 Williams Street
Luzmoor, L. T. .....3 Barbour Street
Luzmoor, Raymond .....63 Martin Street
Lyons, E. E. .....3 Center Street
Lyon, J. .....20 Central Row
Lyon, B. ..... 140 Warrenton Avenue
Langdon, J. F. .....45 Magnolia Street

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Lewis, Fred H. .....19 Amity Street
Lewis, J. B. .....
Lowe, John G. F. .....90 Franklin Avenue
Lyons, J. J. .....
Loomis, B. B. .....81 Trumbull Street
Mahoney, H. P. .....32 Canton Street
Mahoney, J. J. .....22 Affleck Street
Mahoney, Wm. E. .....5 Atlantic Street
Maloy, Mark .....16 Putnam Heights
Mannierre, Arthur .....270 Trumbull Street
Mars, Eugene W. .....259 Jefferson Street
Marsh, Clifford L. .....18 Pratt Street, Winsted, Conn.
McCarty, T. M. .....35 Washington Street
McCormack, Fred L. .....West Hartford, Conn.
McDonald, James A. .....44 Amity Street
McEntee, A. J. .....17 Chadwick Avenue
McDonald, Peter .....
Mahl, Edward .....24 Annawan Street
Melicovsky, Nathan .....17 East Street
McKinley, Robert .....168 Clark Street
McGowen, Hugh .....21 Capitol Avenue
McCormack, Frank .....West Hartford, Conn.
McGough, John F. .....69 Bushnell Street
Meegan, Peter F. .....50 Allyn Street
McMullen, John .....32 Chapel Street
Marshall, Gus .....52 Allyn Street
Moran, William J. .....60 Madison Street
Moulton, Charles A. .....93 Chestnut Street
Moseley, George A. .....Bristol, Conn.
Mott, Clarence A. .....198 High Street
Mulligan, William T. .....31 Summer Street, Bristol, Conn.
Mulcahy, William H. .....47 Sigourney Street
Mullings, John J. .....14 Charter Oak Avenue
Murphy, J. J. .....37 Mahl Avenue
Murphy, Timothy J. .....2 Portland Street
Murray, Charles .....18 Charter Oak Avenue
Maloy, John H. .....144 Wethersfield Avenue
Maloy, William F. .....144 Wethersfield Avenue
Mattatell, W. W. .....
McCue, Michael J. .....43 Russell Street
McNab, A. J. .....
McLaughlin, Peter J. .....
Murray, J. E. .....70 Allen Place
Morgan, Bernard .....230 High Street
Nadeau, Charles H. .....86 Cedar Street
Nolan, James J. .....44 Liberty Street

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Nolan, Joseph .....16 Squire Street
Norton, Edward A. .....228 Pearl Street
O'Brien, Frank .....31 Center Street
O'Brien, Michael .....29 Alden Street
O'Leary, James J. .....
O'Meara, John F. .....53 Sigourney Street
Owens, Albert J. .....39 Chapel Street
Owens, George .....21 Elmer Street
Oakes, William E. .....748 Broad Street
O'Brien, James H. .....31 Center Street
O'Brien, John F. .....5 East Street
O'Hara, John J. .....10 Marlborough Street
Pearston, James .....29 Church Street
Pepion, Andy S. .....181 Bellevue Street
Peterson, C. B. .....East Hartford, Conn.
Peterson, Otto R. .....31 Chapel Street
Porter, Ira W. .....1178 Main Street
Purcell, Edward .....
Purcell, John L. .....44 Annawan Street
Penpraise, Fred R. .....120 Franklin Avenue
Reed, Darcy .....Wethersfield, Conn.
Ryan, William J. .....101 Sheldon Street
Robin, Lewis .....1172 Main Street
Roche, William B. .....
Rohan, John F. .....49 Franklin Avenue
Reiman, Stephen .....
Roberts, Hugh H. .....
Reilly, John J. .....70 Ann Street
Robertson, David .....
Sawyer, DeForest A. .....766 Asylum Avenue
Shepardson, D. F. .....230 Wethersfield Avenue
Schultz, Bernard F. .....So. Manchester; Conn.
Sinnott, Thomas J. .....37 Harbison Avenue
Snow, Charles L. .....
Snow, George A. .....75 Pliny Street
Speirs, Robert .....161 Barbour Street
Starr, John C. .....799 Albany Avenue
Seltzer, Myer C. .....
Stephens, George J. .....23 Greenwood Street
St. John, George H. .....64 Clark Street
Sugrue, Timothy A. .....1081 Main Street
Sullivan, John J. .....61 Park Street
Sweeney, Thomas A. .....116 Clark Street
Sadler, Erne .....55 Windsor Avenue
Scott, Patrick F. .....52 Allyn Street
Schloesser, Arnold .....42 Bushnell Street

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Schimke, Fred .....614 Broad Street
Scofield, David .....
Shaw, D. D. .....
Shea, Edward J. .....32 Flower Street
Sheehan, John H. .....52 Allyn Street
Slingland, Frank .....113 Barker Street
Sullivan, D. F. .....186 Sargeant Street
Smith, Allie M. .....East Hartford, Conn.
Skau, Ingvard B. .....20 Bushnell Street
Small, Irving C. .....184 Smith Street
Sullivan, John E. .....45 Park Street
Sperry, G. R. .....Farmington, Conn.
Sholes, R. S. .....
Skelly, James P. .....101 Maple Avenue
Simpson, John G. .....Plainville, Conn.
Sheehy, Martin .....
Tailon, L. A. .....228 Pearl Street
Taylor, J. M. .....48 Kennedy Street
Trant, Thomas .....36 Annawan Street
Thompson, L. W. .....52 Allyn Street
Trotter, Thomas M. .....South Manchester, Conn.
Trombly, Frederick .....666 Garden Street
Trombly, G. F. .....754 Blue Hills Avenue
Turtelott, William .....
Tobey, Harry W. .....
Vanderman, William .....113 Ann Street
Vanderman, E. L. .....80 Ann Street
Viner, E. C. .....
Wall, William .....394 Prospect Avenue
Warner, Robert .....4 Canton Street
Wilson, Nicholas E. .....74 Buckingham Street
White, John .....
Woolridge, R. J. .....Glastonbury, Conn.
Weiant, Ernest .....240 Maple Street, New Britain, Conn.
Weiss, Ben .....9 Arch Street
Wiley, Harry A. .....
Wright, David .....2 Elm Place
Warner, Edward .....4 Canton Street
West, Mark .....
Wood, Robert .....
Yacavone, Joseph M. .....20 Kilbourn Street

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REPORT

OF THE

Board of Charity Commissioners

FOR THE

Year Ending April 1, 1913

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BOARD OF CHARITY COMMISSIONERS.

WILLIAM BROSMITH, ...Term expires June, 1913
FLAVEL S. LUTHER, ...Term expires June, 1913
RICHARD J. DILLON.....Term expires June, 1914
GEORGE B. BRADFORD.....Term expires June, 1914
CUNO A. HELFRICHT, ...Term expires June, 1915
JOEL W. JOHNSON,.....Term expires June, 1915

OFFICERS.

William BroSmith, *President.*
Cuno A. Helfricht, *Vice-President.*
W. W. Stillman, *Superintendent.*
H. G. Bailey, *Clerk.*
Anna D. Welch, *Stenographer.*
M. H. Gunshanan, *Investigator.*
Harry C. Clifton, M. D., *City Physician.*

ALMSHOUSE.

Charles S. Woodward, *Steward.*
William M. Curtis, *Supervisor.*
Abbie L. Pierce, *Matron.*

CHILDREN'S HOME.

Edith S. Edgette, *Matron.*
Edith M. Carlson, *Housekeeper.*
Philip F. Kennedy, M. D., *Physician.*

CITY HOSPITAL.

Visiting, Medical and Surgical Staff.

Harry C. Clifton, M. D., *Surgeon in Chief.*
O. G. Wiedman, M. D., *Visiting Physician and Radiographer.*
G. F. Vail, M. D., *Diseases of the Eye, Ear, Nose and Throat.*

Consulting Physicians and Surgeon.

Levi B. Cochran, M. D. J. W. Felty, M. D.
G. A. Andre, M. D.

Eleanor M. Brockman, *Head Nurse.*
Bruno E. Hockert, *Pharmacist.*

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CITY HOSPITAL AND ALMSHOUSE. (1)

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SEVENTEENTH ANNUAL REPORT OF THE BOARD OF CHARITY COMMISSIONERS.

To the Honorable Court of Common Council of the City of Hartford,

Gentlemen:

In compliance with the ordinance we submit this report of the proceedings and acts of the Board of Charity Commissioners for the fiscal year ending March 31, 1913, including herein all receipts and disbursements in detail.

Your honorable body appropriated for municipal charity one hundred and thirty-three thousand ($133,000.00) dollars, made up of a regular appropriation of one hundred and twenty-eight thousand ($128,000.00) dollars and an extra appropriation of five thousand ($5,000.00) dollars. The gross disbursements of the Board of Charity Commissioners for the year aggregated one hundred and thirty-two thousand eight hundred and seventy-eight and thirty-nine one hundredths ($132,878.39) dollars. The unexpended balance of one hundred and twenty-one and sixty-one one hundredths ($121.61) dollars and nine thousand two hundred and thirty-seven and seventy-two one hundredths ($9,237.72) dollars collected by the Board from the State of Connecticut and from other sources, making a total of nine thousand three hundred and fifty-nine and thirty-three one hundredths ($9,359.33) dollars, were turned into the City Treasury. The fund so returned to the City Treasury brought the net cost for the maintenance of this Department and the care of the sick, insane and indigent down to one hundred and twenty-three thousand six hundred and forty and sixty-seven one hundredths ($123,640.67) dollars, an increase over the preceding year of six thousand seven hundred and five and forty-seven one hundredths ($6,705.47) dollars. This increase was due to the number of tubercular and contagious cases which became a charge upon the City and to the very large increase in the hospital charges for the care of contagious diseases. Although the weekly charge of the State Sanatoria for each patient is less than that of the Hartford Hospital for tubercular patients, a larger number of persons now apply for treatment. Notwithstanding the additional burden thus imposed by the increase in the aggregate cost we hold that the best interests of the City are served by taking the dependent poor afflicted with this disease from the neighborhoods in which they are a menace to the general health to places where they may receive proper care and possibly be cured.

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For two years or more the situation with regard to contagious diseases has been deplorable and a grave menace to the public health. The accommodations with respect to cases of this kind have been inadequate. However, with the erection of the Isolation Hospital under the appropriation voted at the recent election conditions will be remedied and ample provision will be made for suitable accommodations and treatment for patients afflicted with contagious diseases. It is as true of diseases of this kind as of tubercular disease that the afflicted persons should be taken from the neighborhoods in which they are a source of danger to the public to some institution in which they may receive suitable treatment.

Twelve hundred and ninety-four different persons were cared for in the Almshouse and City Hospital. Two hundred and ninety-two insane and imbecile patients were cared for in asylums and in the Home for Imbeciles. Three hundred and forty-six patients were treated in the Hartford and St. Francis Hospitals and in the State Tubercular Sanatoria and nineteen children were cared for in various orphan asylums outside of the Children's Home. Outdoor relief was furnished to approximately nineteen hundred and fifteen persons.

The Almshouse, City Hospital and Children's Home are in good repair, suitably furnished and well equipped for the proper care and treatment of the inmates and patients. We have to suggest in the way of additional permanent improvements at this time the installation of water mains around the three sides of the City Hospital and Almshouse with enough fire taps to make sure that in the event of fire the Fire Department will be able to secure a sufficient force of water for extinguishment. This improvement we hope to complete before the close of summer.

For the maintenance of our charitable institutions at their present standard of efficiency, the skillful, faithful and considerate treatment of inmates, patients and outdoor poor and the careful supervision of our municipal charities the City is indebted to the hospital, medical and surgical staff, Dr. H. C. Clifton, H. G. Bailey, Clerk of the Board, and Michael Gunshanan, Investigator, all under the prudent direction of Superintendent W. W. Stillman.

Statements in detail of the Almshouse, City Hospital, Outdoor Poor, Hospital and Asylum Accounts, itemized accounts of the expenditures of the Department, reports of the City Physician, Investigator and Storekeeper and comparative statements of gross disbursements and net cost form as usual a part of this report.

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SUMMARY OF DISBURSEMENTS.

Year ending March 31, 1913.

Almshouse	$ 70,421.53
Outdoor Poor	4,589.21
Hospitals and Asylums	47,082.18
Office Expenses	6,014.57
Miscellaneous	4,770.90
	$132,878.39

Amounts Collected and Paid City Treasurer during the same period.

Superintendent of Almshouse,	$ 191.29
Support of Poor in Almshouse,	4,074.59
Support of Outdoor Poor,	410.71
Support of Poor in Hospitals,	3,578.30
Support of Insane,	982.83
	$9,237.72

Net Expense to City during same period.

Almshouse,	$ 66,155.65
Outdoor Poor,	4,178.50
Hospitals and Asylums,	42,521.05
Office Expenses,	6,014.57
Miscellaneous,	4,770.90
	$123,640.67

Comparative Statement of Gross Disbursements.

	1913	1912	1911
Almshouse,	$70,421.53	$72,880.50	$65,919.66
Outdoor Poor,	4,589.21	5,177.50	5,167.34
Hospitals, Asylums,	47,082.18	39,931.85	42,111.29
Office Expenses,	6,014.57	5,761.33	5,616.54
Miscellaneous,	4,770.90	4,237.51	3,869.65
	$132,878.39	$127,988.69	$122,684.48

Comparative Statement of Net Expense.

	1913	1912	1911
Almshouse,	$66,155.65	$66,919.90	$59,843.60
Outdoor Poor,	4,178.50	4,024.86	4,326.32
Hospitals, Asylums,	42,521.05	35,991.60	36,715.93
Office Expenses,	6,014.57	5,761.33	5,616.54
Miscellaneous,	4,770.90	4,237.51	3,869.65
	$123,640.67	$116,935.20	$110,372.04

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Almshouse and City Hospital.

	1913	1912
Daily average number of inmates in Almshouse and City Hospital for the year ending March 31st,	375	345
Cost of maintenance per capita per day,	.51 ½	.57¾
Cost of maintenance per capita per week,	3.60	4.04
Greatest number of inmates at one time,	484	473
Smallest number of inmates at one time,	310	260
Deaths during the year ending March 31st,	125	144
Buried at the cost of the Department,	32	30
Number of inmates remaining April 1, 1913, in Almshouse 319, in City Hospital 90, (Males 283, Females 126)	409	
Number of inmates remaining April 1, 1912, in Almshouse 366, in City Hospital 78, (Males 315, Females 129)		444
Cases treated in the City Hospital during the year ending March 31st,	843	868
Daily average number,	73	67
Daily average number of males,	49	42
Daily average number of females,	24	25
Total number of persons cared for in the Almshouse and City Hospital year ending March 31st,	1294	1290
Males,	913	889
Females,	381	401

Hospitals and Asylums.

	1913	1912
Insane and imbecile patients cared for outside of the Almshouse,	292	288
Expense to City for care of same	$27,470.55	$27,325.25
Insane and imbecile patients remaining on expense April 1st,	259	266
These patients are distributed as follows:		
Conn. Hospital for Insane, Middletown,	234	229
Conn. School for Imbeciles, Lakeville,	23	25
Retreat for Insane, Hartford,	1	1
Norwich Insane Asylum, Norwich,	1	1
	259	256
Additional insane or idiotic inmates at the Almshouse,	13	10
Total at City expense April 1st,	272	266

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CITY HOSPITAL—EAST SIDE. (2)

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Admitted to Hospitals during the year at City expense and distributed as follows:	1913	1912
Hartford Hospital,	136	173
St. Francis Hospital,	46	27
Hartford County Tuberculosis Sanatorium,	97	76
New Haven County Tuberculosis Sanatorium,	5	16
Fairfield County Tuberculosis Sanatorium,	0	9
On hand at beginning of year:		
Hartford Hospital,	11	3
St. Francis Hospital,	1	0
Hartford Co. Tuberculosis Sanatorium,	47	21
New Haven Co. Tuberculosis Sanatorium,	1	7
Fairfield Co. Tuberculosis Sanatorium,	2	2
Total number of persons treated at hospitals,	346	334
Expense to City for care of same	$18,768.73	$11,476.98
Remaining at City expense April 1st:		
Hartford Hospital,	17	11
St. Francis Hospital,	4	1
Hartford Co. Tuberculosis Sanatorium,	50	47
New Haven Co. Tuberculosis Sanatorium,	5	1
Fairfield Co. Tuberculosis Sanatorium,	0	2
Total,	76	62

Children.

Cared for outside of the Almshouse,	19	19
Distributed as follows:		
St. Joseph's Church Corporation	3	0
St. Peter's Church Corporation,	2	3
St. Patrick's Church Corporation,	3	5
St. Augustine's Church Corporation,	1	1
Convent of the Good Shepherd,	1	1
Sacred Heart Church Corporation,	0	1
Immaculate Conception Church Corporation,	2	3
Home for Incurables, Newington,	7	5
Remaining at City expense April 1st at the various asylums,	12	13
Average rate per week for care,	$1.50	$1.50
Total cost,	$842.90	$1,129.62
Children on expense at Almshouse and City Hospital April 1st,	27	27

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Outdoor Poor.

	1913	1912
Aid rendered to persons not inmates of institutions, exclusive of transportation, medical attendance and burials:		
Number of families,	68	76
Consisting of		
Adults,	98	115
Children,	255	275
Total	353	390
Amount expended,	$3,399.08	$3,870.63
Transportation furnished:		
Number of persons,	257	332
Cost,	$453.70	$713.00
Orders for attendance by City Physician,	2133	1969
Cost of medicine furnished on these orders,	$680.43	$557.87
Burials of persons not inmates of institutions,	25	21
Cost of these burials,	$56.00	$36.00
Total expenditure for outdoor relief,	$4,589.21	$5,177.50
Number of persons relieved (approximately),	1915	1924
Per capita expenditure,	$2.40	$2.69
Remaining at City expense April 1st (families),	36	46

Note—The Board of Charity Commissioners did not furnish directly any coal to applicants for relief, but through the kindness of the Almoners of the Hartford Charitable Society and the Niles Fund, distributed 52 tons of coal.

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REPORT OF THE INVESTIGATOR AND STOREKEEPER.

For the Year ending March 31, 1913.

To the Honorable Board of Charity Commissioners,
City of Hartford,

Gentlemen:

I herewith submit my report as Investigator and Storekeeper for the year ending March, 31, 1913.

Total number of orders received at the Storeroom was 401. The total number of orders for the previous year was 538, a decrease of 137 orders for the past year. The average number of orders per week was 7 3-5, the same being distributed among 21 families. The number of families which received orders in the previous year was also 21. The largest number given out was 12 on April 6, 1912, and the lowest number was 5 on January 18, 1913.

The amount of provisions given out on 401 orders was 9,294 3-4 pounds at a cost of $400.84. There is on hand provisions valued at $22.19.

I have made during the past year 2,085 visits to families seeking outdoor relief, applicants for admission to the Almshouse, City Hospital, Hartford and St. Francis Hospitals, the Tuberculosis Sanatoria, The Home for Incurables, Orphan Asylums and other institutions. I have also been called upon by the State Comptroller to investigate cases of State Paupers, by individuals and almoners or private charitable societies to investigate applications made to them by individuals and families seeking temporary aid.

Respectfully,

MICHAEL H. GUNSHANAN,
Investigator.

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LIST OF OUTDOOR POOR.

Where Aid given amounted to Twelve Dollars or more.

Burke, Sarah	$58.00	Lanchio, Mary	$18.00
Brown, Gertrude	24.10	Meisel, Betty	12.00
Baker, Helen	30.00	Mannor, Catherine	48.00
Brady, Delia	14.00	Mullarkey, Thomas	21.00
Cowles, Charles G.	56.00	McCarthy, Nora	48.00
Carbonni, Rose	48.00	Nevins, Margaret	68.00
Chapdelaine, Louis	12.00	Narog, Annie	30.00
Coppinger, Annie	82.00	Nazrey, Annie	12.00
Conlon, Catherine	54.00	O'Connell, Winnifred	100.00
Coakley, Keron	18.00	O'Brien, Catherine	80.00
Callahan, Alice	17.22	O'Flaherty, Delia	48.00
Daley, Mary	12.00	O'Neil, Mary	24.00
Daley, Rose	48.00	Olander, Julia	16.00
Davis, Sarah	48.00	O'Brien, Catherine	16.00
Eukaben, Annie	48.00	Paluch, Louis	24.00
Egan, Mary	28.00	Peterson, Elizabeth	78.00
Ford, Julia	48.00	Potenza, Carmella	70.00
Fennessey, Mary	40.00	Powers, Catherine	48.00
Geoghagen, Bridget	20.00	Pearson, Selma	44.00
Ginsberg, Betsy	12.00	Pandisce, Philomena	48.00
Gaffey, Anne	48.00	Pontillo, Rosa	38.00
Harrigan, Mary	52.00	Ryan, Mary	48.00
Hickey, Bridget	97.00	Sullivan, Nora	48.00
Healey, Margaret	48.00	Sheehan, Mary	46.00
Hayes, Rose	12.00	Sorggio, Rafaella	48.00
Jones, Martha	48.00	Shower, Lena	48.00
Jacobs, Rachel	48.00	Terhune, Delia	96.00
Koplitzki, Annie	48.00	Weisman, Mary	48.00
Kearney, Nora	41.00	Weingrow, Bertha	16.00

Nativity of Families of Outdoor Poor.

United States	264	Sweden	2
Ireland	40	Germany	2
Russia	16	Austria	2
Italy	11	Canada	1
England	6	Roumania	1
Poland	6		

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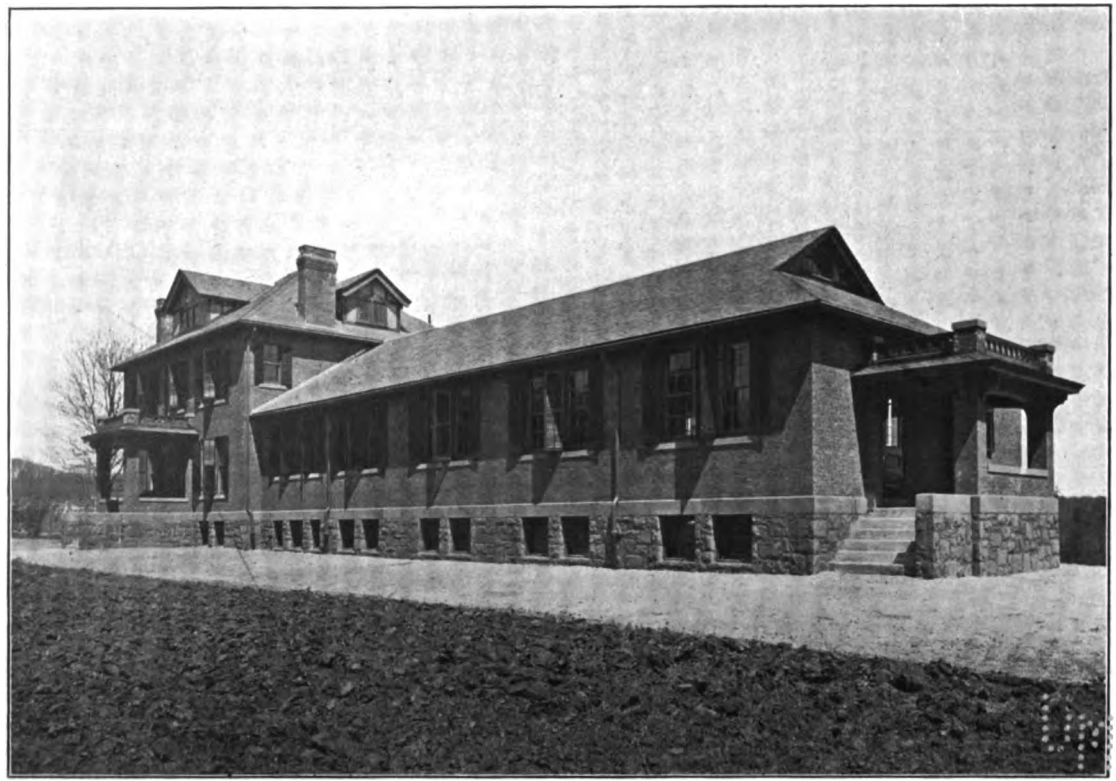

CHILDREN'S HOME. (3)

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Outdoor Poor Buried by the City.

Belevite, Wasil
Chapdelaine, Paul A.
Desmond, Daniel
Difazio, baby
Frank, baby
Johnson, John
Latham, Charles
LaChappell, Albert
Marshall, Albert G.
Meir, Louis
Pizaferraro, Annie
Richardson, William
Shultz, Henry
Serkisian, Kerher
Serafino, Dominic
Unknown, baby
Unknown, baby
Unknown, man
Unknown, man
Unknown, man
Unknown, man
Unknown, man
Unknown, man
Unknown, man
Zandri, Angelina

Total of 25 burials.

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REPORT OF THE CITY PHYSICIAN.

Hartford, Conn., April 1, 1913.

To the Honorable Board of Charity Commissioners,
City of Hartford,

Gentlemen:

I herewith submit a report of the work of my department for the year ending March 31, 1913.

Number of house visits,	407
Number of calls at Dispensary for treatment,	2564
Number of cases examined at Hospitals for admission,	241
Approved..171 Disapproved..70	
Number of cases examined at Hospitals for admission to State Tuberculosis Sanatoriums,	32
Approved...31 Disapproved...1	
Number of cases examined at residence for admission to Hartford and St. Francis Hospitals,	24
Approved...24 Disapproved...0	
Number of cases examined at residence for admission to City Hospital,	107
Approved..107 Disapproved...0	
Number of cases examined at Dispensary for admission to Hartford and St. Francis Hospitals,	87
Approved...87 Disapproved...0	
Number of cases examined at Dispensary for admission to City Hospital,	406
Approved..400 Disapproved...6	
Number of cases examined for Insanity at Police Station and Homes,	42
Approved...35 Disapproved.. 7	
Number of cases treated in City Hospital,	1008
Operations 107; Confinements 19.	
Number of treatments at Almshouse outside of Hospital Wards,	1718

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Medical Cases.

Diseases	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Alcoholism—acute	48	1	...	1	2	52
Alcoholism—chronic	3	1	...	...	1	5
Anaemia—secondary	...	1	...	...	...	1
Anaemia—pernicious	...	1	...	...	...	1
Arterio-sclerosis	...	3	1	...	2	6
Arthritis—deformans	...	1	...	...	2	3
Arthritis—gonorrheal	...	1	...	...	1	2
Asthma—bronchial	...	3	...	1	1	5
Asthma—cardiac	...	1	1	1	1	4
Atony of stomach	...	1	1	...	...	2
Bronchitis—acute	4	...	...	...	...	4
Bronchitis—chronic	1	2	...	...	...	3
Cerebral embolism	...	...	...	1	...	1
Carcinoma—stomach	...	...	...	2	...	2
Cirrhosis—liver	...	4	...	1	...	5
Colitis mucous	1	...	...	...	...	1
Constipation—chronic	1	...	...	...	...	1
Debility—general	...	2	...	...	...	2
Dementia—alcoholic	2	...	...	...	...	2
Dementia—senile	...	...	...	1	...	1
Delirum tremens	8	1	...	4	...	13
Dermatitis	1	...	...	...	...	1
Diabetes mellitus	2	1	...	...	1	4
Dysentery	1	...	...	...	...	1
Eczema—acute	2	...	...	...	1	3
Endocarditis—acute	2	...	...	...	...	3
Endocarditis—chronic	...	...	...	1	...	1
Enteroptosis	...	1	...	...	...	1
Eneurisis	...	1	...	...	...	1
Epilepsy	...	4	3	...	...	7
Epistaxis	1	...	...	...	...	1
Erysipelas	2	1	...	...	2	5
Exhaustion—heat	2	...	...	...	...	2
Furunculosis	1	...	...	...	...	1
Gastritis—alcoholic	1	...	...	...	...	1
Gastritis—chronic	...	3	...	...	...	3
Gastro-duodenitis	2	...	...	...	...	2
Gastro-enteritis—acute	...	...	...	4	...	4
Goitre—exopthalmic	...	1	...	...	...	1
Hemorrhage—cerebral	...	1	...	4	...	5

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Diseases	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Hemiplegia	1	1	...	2	2	6
Herpes Zoster	1	...	...	...	...	1
Hysteria	1	...	...	...	...	1
Impetigo—contagioso	2	...	...	...	...	2
Incontinence of urine	1	1	...	...	...	2
Influenza	11	...	...	...	1	12
Insanity	...	3	39	...	...	42
Locomotor Ataxia	...	1	...	...	...	1
Lumbago	2	...	...	...	2	4
Malaria	7	...	...	...	...	7
Malnutrition	4	...	...	...	...	4
Measles	2	...	...	...	6	8
Melancholia	...	...	1	...	...	1
Meningitis—cerebro-spinal	...	1	...	...	...	1
Meningitis—tubercular	...	...	...	1	...	1
Mitral regurgitation	2	...	...	2	...	4
Morphinism	...	...	1	...	...	1
Myocarditis	1	2	...	...	...	3
Nephritis—acute	2	...	...	2	...	4
Nephritis—chronic	...	21	...	7	2	30
Neuritis—alcoholic	1	...	...	...	...	1
Neuritis	2	...	...	...	...	2
Neuralgia	1	...	...	...	...	1
Neurasthenia	...	3	...	...	...	3
Oedema angio—neurotic	...	1	...	...	...	1
Paralysis agitans	...	1	...	...	...	1
Paraplegia	...	...	1	...	2	3
Paranoia	...	...	...	2	...	2
Paresis	...	...	1	...	...	1
Pediculosis	2	...	...	...	1	3
Phthisis	...	20	4	4	3	31
Pleurisy	5	1	...	...	2	28
Pleurisy—chronic	...	2	...	...	...	2
Pleurisy—effusion	1	1	...	1	...	3
Pleurisy—tubercular	...	1	1	...	1	3
Pneumonia—catarrhal	1	...	...	3	...	4
Pneumonia—croupous	17	...	...	17	...	34
Poisoning—headache powder	1	...	...	...	...	1
Rickets	...	4	...	2	...	6
Rheumatism—acute	16	3	...	...	1	20
Rheumatism—chronic	8	10	...	...	...	18

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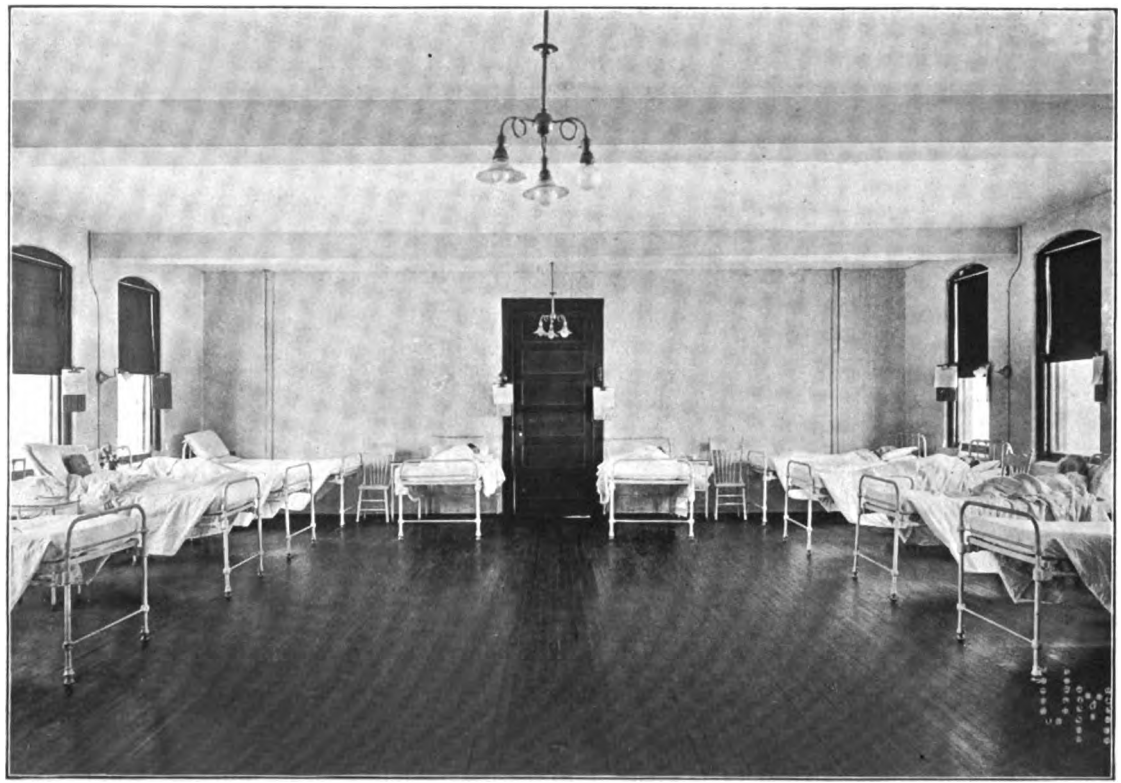

FEMALE WARD—CITY HOSPITAL. (4)

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Diseases	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Rhus poisoning	1	...	...	...	...	1
Sciatica	2	...	...	...	...	2
Scarlet fever	1	...	...	...	...	1
Senility	...	...	...	2	...	2
Syphilis	3	10	...	1	...	14
Tabes dorsalis	...	1	...	...	...	1
Tinea Tonsurans	1	...	...	...	...	1
Tuberculosis of bladder	...	1	...	...	...	1
Tubercular diathesis	...	1	...	...	...	1
Tuberculosis of kidney	1	...	...	...	...	1
Typhoid fever	15	...	...	...	...	15
Ulcer of stomach	...	1	...	...	...	1
Uraemia	1	...	...	6	...	7
Valvular disease of heart	2	9	1	7	1	20
Totals	204	136	55	80	38	513

Eye and Ear.

Diseases	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Blepharitis marginalis	1	...	...	...	...	1
Corneal ulcer	1	...	...	...	...	1
Iritissy—philitic	6	...	...	...	...	6
Keratitis	1	...	...	...	...	1
Otitis media—suppurative	3	1	...	...	...	4
Ophthalmia neonatorum	1	...	...	1	...	2
Ptosis	...	1	...	...	...	1
Totals	13	2	0	1	0	16

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Nose and Throat

Diseases.	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Abscess-peritonsillar	1	...	...	...	...	1
Diphtheria—laryngeal	...	...	...	1	...	1
Hypertrophy—adenoids and tonsils	8	...	...	...	1	9
Foreign body in nose	1	...	...	...	...	1
Laryngitis—acute	1	...	...	...	...	1
Tonsillitis—Follicular acute	1	...	...	...	...	1
Tonsillitis—Parenchymatous acute	3	...	...	...	...	3
Totals	15	...	...	1	1	17

Gynaecological.

Diseases.	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Abscess—vulvo-vaginal	1	...	...	...	...	1
Cystocele	...	...	1	...	...	1
Retroversion uterus	...	2	...	...	...	2
Salpingitis—acute	2	...	...	...	...	2
Salpingitis—chronic	2	...	...	...	...	2
Vaginitis—gonorrheal	1	...	...	...	...	1
Totals	6	2	1	...	...	9

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Obstetrical.

Diseases.	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Abortion—complete	3	...	...	...	...	3
Abortion—incomplete	1	...	...	1	...	2
Abortion—threatened	1	...	...	...	...	1
Miscarriage	2	...	...	...	...	2
Mastitis	2	1	...	...	...	3
Pregnancy	27	...	...	...	3	30
Phlegmasia alba dolens	1	...	...	...	...	1
Totals	37	1	...	1	3	42

Surgical Cases.

Diseases	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Abscess—ear	1	...	...	...	...	1
Abscess—ischio-rectal	1	...	...	...	...	1
Abscess—inferior maxilla	4	...	...	...	...	4
Abscess—leg	2	...	...	...	...	2
Abscess—neck	3	...	...	...	1	4
Abscess—maxillary	1	...	...	...	...	1
Abscess—vulvo-vaginal	1	...	...	...	...	1
Adhesions—post-operative	2	...	...	...	...	2
Appendicitis—acute catarrhal	2	...	...	...	1	3
Appendix—chronic	2	...	...	...	...	2
Appendicitis—gangrenous	1	...	...	...	...	1
Arthritis—gonorrheal	...	1	...	...	...	1
Bubo—syphilitic	2	...	...	...	...	2
Burns	5	...	...	...	1	6
Burns—carbolic acid	1	...	...	...	...	1
Carbuncle—neck	2	...	...	...	...	2
Carcinoma—bladder	...	1	...	2	...	3
Carcinoma—liver	...	...	...	2	...	2

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Diseases.	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Carcinoma—prostate gland	...	...	...	1	...	1
Carcinoma—rectum	...	...	...	2	...	2
Carcinoma—stomach	...	1	...	3	1	5
Carcinoma—uterus	2	...	...	1	1	4
Cellulitis—ear	1	...	...	...	...	1
Cellulitis—les	2	...	...	...	1	3
Concussion—brain	...	...	...	1	...	1
Contusions—ankle	1	...	...	...	1	2
Contusions—arm	1	...	...	...	1	2
Contusions—back	2	...	...	...	...	2
Contusions—face	1	...	...	...	...	1
Contusions—hip	1	...	...	...	...	1
Contusions—knee	3	...	...	...	...	3
Contusions—neck	1	...	...	...	...	1
Contusions—shoulder	2	...	...	...	...	2
Contusions—general	4	...	...	...	...	4
Coxalgia	1	...	...	...	...	1
Cystic kidney	1	...	...	...	...	1
Dislocation—shoulder	3	...	...	...	...	3
Epididymitis	1	...	...	...	...	1
Empyema (T B)	...	...	...	1	...	1
Fibroid—uterus	...	1	...	1	1	3
Fistula in ano	...	1	...	...	...	1
Flat-foot	...	1	...	...	...	1
Fracture—colles	1	...	...	...	...	1
Fracture—clavicle	3	...	...	...	...	3
Fracture—femur	2	...	...	...	3	5
Fracture—fibula	3	...	...	...	...	3
Fracture—fibula and tibia	1	...	...	...	3	4
Fracture—humerus	8	...	...	...	2	10
Fracture—hip	...	2	...	1	...	3
Fracture—inferior-maxilla	1	...	...	...	...	1
Fracture—mutiple	...	...	...	1	...	1
Fracture—metatarsal bones of foot	2	...	...	...	...	2
Fracture—nasal bones—	2	...	...	...	...	2
Fracture—olecranon	1	...	...	...	...	1
Fracture—patella	...	...	...	...	1	1
Fracture—pelvis	1	...	...	...	...	1
Fracture—ribs	9	...	...	...	1	10
Fracture—skull	1	...	...	1	...	2
Fracture—tibia	3	...	...	...	...	3

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MALE WARD—CITY HOSPITAL. (5)

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Diseases.	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Fracture—vertebra	...	...	...	...	1	1
Gangrene—feet	1	...	...	...	...	1
Gangrene—toes	1	...	...	1	1	2
Gonorrhea—chronic	1	...	...	...	...	1
Haematoma—face	1	...	...	...	...	1
Haematoma—hip	1	...	...	...	...	1
Hemorrhoids	4	...	...	...	...	4
Hydronephrosis	1	...	...	...	...	1
Hydrocele	1	...	...	...	...	1
Hernia—indirect inguinal	6	...	...	...	...	6
Hernia—direct inguinal	4	...	...	...	...	4
Hernia—femoral	2	...	...	...	...	2
Hernia—scrotal	2	...	...	...	...	2
Infected ear	1	...	...	...	...	1
Infected finger	2	...	...	...	...	2
Infected foot	6	...	...	...	...	6
Infected hand	4	...	...	...	...	4
Infected knee	3	...	...	...	...	3
Infected to	1	...	...	...	...	1
Infected scalp	4	...	...	...	...	4
Lacerated arm	1	1	...	...	...	2
Lacerated ear	1	...	...	...	...	2
Lacerated head	1	...	...	...	...	1
Lacerated scalp	2	...	...	...	...	2
Necrosis—inferior maxilla	...	...	...	...	1	1
Orchitis—acute	5	...	...	...	...	5
Osteo-myelitis	...	1	...	...	...	1
Osteitis-rarefying of humerus	1	...	...	...	...	1
Paraphimosis	1	...	...	...	...	1
Perotonitis—tubercular	...	1	...	...	...	1
Paucreatitis—chronic	1	...	...	...	...	1
Prostatic—enlargement	1	2	...	1	...	4
Phlebitis	1	...	...	...	...	1
Prolapse rectum	...	1	...	...	...	1
Sarcoma of neck	...	...	...	1	...	1
Sarcoma of humerus	...	...	...	1	...	1
Septicemia	2	...	...	...	...	2
Sinus—abdominal	...	1	...	...	...	1
Sinus—back	...	...	1	...	...	h
Sinus—pelvis	...	1	...	...	...	1
Sprain of ankle	14	...	...	...	...	14

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Diseases.	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Sprain of wrist	1					1
Stricture—urethral	3	1		1		5
Synovitis of knee	1					1
Talipes equini varus			1			1
Tubercular—hip joint		1				1
Tubercular—osteo-myelitis						
Tubercular—carpal bones of wrist		1				1
Tubercular—testicle	1					1
Ulcer—duodenal	1					1
Ulcer—foot	1					1
Ulcer—leg	12	2				14
Ulcer—rodent	1					1
Ulcer—stomach		1				1
Ulcer—thigh		1				1
Varicose veins—leg ruptured	1					1
Varicocele			1			1
Wounds—gunshot, abdomen	1					1
Wounds—gluteal	1					1
Wounds—groin	1					1
Wounds—face	1					1
Wounds—hand	1				1	2
Wounds—leg	1					1
Wounds—incised—multiple	1					1
Wounds—incised, wrist	1					1
Wounds—stab of face and neck	1					1
Wounds—stab of groin	1					1
Wounds—contused foot	1					
Wounds—punctured	1					1
Wounds—finger		1				1
Wounds—post-operative	2					2
Wounds—infected hand	1					1
Wounds—infected leg	3					3
Wounds—infected scalp	3					3
Totals	214	24	3	22	23	286

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Operations.	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Amputation—fingers	2	...	...	...	...	2
Amputation—leg	1	...	...	...	...	1
Amputation—toes	2	...	...	...	...	2
Anastomosis of tendon	1	...	...	...	...	1
Appendix—acute	1	...	...	...	...	1
Appendix—chronic	1	...	...	...	...	1
Bone-plating—fracture tibia and fibula	...	...	...	...	1	1
Castration	1	...	...	...	...	1
Circumcision	1	...	...	...	...	1
Cholecystotomy	1	...	...	...	...	1
Curettement—tubercular wrist	1	...	...	...	...	1
Curettement—retained secundies	5	...	...	...	1	6
Curretage—for endometritis	1	...	...	...	...	1
Dislocated—shoulder reduced	2	...	...	...	...	2
Exploratory laparotomy	4	...	...	...	...	4
Excision—growth of humerus	1	...	...	...	...	1
Excision—glands of neck	...	...	...	...	1	1
Excision—foreign body in uterus	1	...	...	...	...	1
Excision—varicose veins	1	...	...	...	...	1
Gastro-enterostomy	1	...	...	...	...	1
Hysterectomy	2	...	...	...	...	2
Hernia—double inguinal	10	...	...	...	...	10
Hernia—scrotal	1	...	...	...	...	1
Hemorrhoids	1	...	...	...	...	1
Hematoma	1	...	...	...	...	1
Intra-abdominal shortening round ligaments	2	...	...	...	...	2
Incision and drainage—abscess axillary	2	...	...	...	...	2
Incision and drainage—abscess neck	1	...	...	...	...	1
Incision and drainage—abscess shoulder	1	...	...	...	...	1
Incision and drainage—abscess scalp	3	...	...	...	...	3
Incision and drainage—infected finger	1	...	...	...	...	1
Incision and drainage—infected foot	1	...	...	...	...	1
Incision and drainage—infected knee	1	...	...	...	...	1
Incision and drainage—infected buttock	1	...	...	...	...	1
Incision and drainage—infected groin	1	...	...	...	...	1
Incision and drainage—infected maxilla	1	...	...	...	...	1
Incision and drainage—infected thigh	4	...	...	...	1	5
Nephrectomy	1	...	...	...	...	1
Nephrotomy	1	...	...	...	...	1
Oophorectomy	1	...	...	...	...	1

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Operations.	Recovered	Improved	Unimproved	Died	Under treatm't April 1, 1913	Total
Paracentisis—thoraxcic	3	...	...	...	...	3
Paracentisis—abdominal	2	...	...	...	...	2
Phlebotomy	1	...	...	...	...	1
Prostatectomy—perineal	1	...	...	...	...	1
Resection of ribs for empyema	2	...	...	3	...	5
Suturing wounds	1	...	...	...	...	1
Salpingo-oophorectomy, double	2	...	...	...	...	2
Salpingo-oophorectomy, single	2	...	...	...	...	2
Tracheaotomy	1	...	...	...	...	1
Tonsillectomy and adenoidectomy	7	...	...	...	...	7
Trephining—skull	1	...	...	...	...	1
Wiring—clavicle	1	...	...	...	...	1
Wiring—patella	1	...	...	...	...	1
Wounds of ear	1	...	...	...	...	1
Wounds of forehead	2	...	...	...	...	2
Wounds of scalp	2	...	...	...	...	2
Totals	99	0	0	3	5	107

Respectfully submitted,

HARRY C. CLIFTON, M. D.,

City Physician.

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CONVALESCENT WARD—CITY HOSPITAL. (6)

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ALMSHOUSE.

Age Classification of Inmates.

Males		*Females*	
Minors	102	Minors	96
21 to 30	84	21 to 30	48
30 to 40	136	30 to 40	52
40 to 50	158	40 to 50	37
50 to 60	213	50 to 60	50
60 to 70	139	60 to 70	52
70 to 80	62	70 to 80	32
90 to 90	18	80 to 90	13
90 to 100	1	90 to 100	1
	913		381

The Trade or Occupation of the Male Inmates.

Agent	2	Hostlers	14
Blacksmith	2	Horse Trainer	2
Bakers	4	Hod Carrier	1
Bartenders	6	Iron workers	3
Butchers	6	Icemen	2
Barbers	4	Joiners	20
Beltmaker	1	Janitors	2
Bookkeeper	1	Laborers	443
Boilermaker	2	Lathers	6
Clerks	6	Linemen	2
Cooks	4	Moulders	10
Collarmaker	1	Machinists	44
Cigarmaker	2	Masons	11
Coachman	1	Merchant	1
Conductor	1	Metalworker	1
Caterer	1	Machine helper	3
Cabinetmaker	2	News reporter	1
Constable	1	Orderly	1
Engineers	7	Pedlers	7
Electrician	2	Painters	24
Electrotyper	1	Printers	4
Farmers	19	Polishers	4
Gardners	7	Plumbers	4
Grinder	2	Pressmen	3

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Porter	1	Teamsters	40
Patternmaker	1	Tailors	6
Railroading	8	Tobacco sorters	2
Rubberworkers	4	Tinker	2
Roofer	1	Upholster	2
Shoemakers	4	Varnisher	1
Shop hand	7	Veterinary	2
Sailor	1	Woodworkers	3
Silverworker	1	Waiters	6
Stone cutter	1	Weavers	1
Tinners	2		

Number of permits issued for admission to City Hospital and Almshouse during the year, 1,141.

Nativity of those Admitted.

United States	642	Austria	12
Ireland	232	Scotland	13
Russia	45	Denmark	4
Poland	40	Hungary	3
Canada	35	Switzerland	3
Germany	33	France	1
Italy	33	Lithuania	1
England	23	Portugal	1
Sweden	20	Greece	1

HOSPITALS.

Inmates of Hospitals.

List of inmates at Hartford Hospital whose board amounted to Twelve Dollars ($12.00) *or more.*

Anderson, Eric	$126.58	Borofsky, William	47.14
Anderson, Carl	166.00	Boniface, Salvatore	52.86
Blomquist, Laura	14.28	Bortz, Florence	12.00
Booth, Samuel	22.86	Burke, Agnes	65.00

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Bochman, William	$140.00
Bochman, Bertha	72.00
Balachowsky, Rosie	86.00
Breen, Sarah	62.00
Clinton, Fred	64.29
Carney, Thomas	42.00
Capello, Rosie	26.00
Canter, Sadie	66.00
Davis, Adeline E.	15.72
Doyle, Edward	52.86
Drexler, Abraham	22.86
Drexler, Katie	14.29
Drexler, Goldie	153.43
Dobmier, Louisa	67.00
Delissio, Frank	23.00
Dickson, Julius	46.00
Donnelli, Rose	68.00
Donnelli Philomena	40.00
Dupuis, Adonia	55.71
Doyle, Gertrude	70.00
Einstedter, Frederick	75.43
Einstedter, Annie	71.14
Flaxman, Lena	72.00
Foulds, Edna	52.00
Gaylor, Bessie	55.71
Gaylor, Benny	55.72
Hopper, Alice	38.57
Herman, Benny	77.14
Howard, Edna	28.57
Hoye, baby	92.14
Hoffman, Saul	50.00
Hyland, James	74.00
Hyland, Katherine	74.00
Harley, Samuel A.	28.57
Himelblue, Relo	61.00
Johnson, Catherine	114.00
Johnson, Mabel	136.00
Kearney, Elizabeth	24.28
Koplitzki, Blanche	114.00
Kinnarey, Agnes	22.00
Lyons, Harold S.	58.00
Labelle, Grace	94.00
Machinist, Philip	116.35
Moran, Mary	14.29
Meyers, Stephen	31.00
Meyers, John	66.00
Merman, Louis	94.00
Mannor, Mary	100.00
O'Donnell, Kate	$70.00
O'Donnell, Francis T.	156.00
Oppelt, Catherine	72.00
Oppelt, Ruth	30.00
Ponchak, Lena	51.43
Ponchak, James	75.71
Philipchuk, Wassel	15.71
Page, Ethel	81.43
Page, Shirley	57.00
Page, Amy	54.00
Pollach, Andrew	15.43
Poverman, Fannie	58.00
Pokalnas, Albert	54.00
Rabinovitz, Polly	50.00
Rabinovitz, Yetta	18.57
Rome, Sidney	91.43
Reynolds, Dorothy	218.58
Runvick, Hans	165.43
Rashoff, Mamie	39.00
Rogers, Charles	28.57
Stumpsky, William	22.86
Salad, Edith	44.00
Sheehan, Julia	96.00
Singer, Lillian	18.00
Shenning, Harold	55.71
Shenning, Mary	54.29
Shenning, Henry	55.71
Shenning, Martin	51.43
Sorrenson, Svend	88.57
Sorrenson, Fritz	78.57
Sharples, John	40.00
Siemiensky, Levin	45.71
Tenore, Tony	20.00
Tuhill, Cornelius	93.43
Thompson, Mary	15.71
Triebert, Rose	146.00
Veits, Dominic	22.86
Weinstein, Ida	58.57
Weisenberg, Harry	46.00
Wernick, Joseph	50.00
Wernick, Jacob	76.00
Wernick, Max	48.00
Wizalis, Stanley	42.00
Wellington, Sophie	25.71
Wopschal, Selma	96.00
Werlin, Abraham	41.43
Zachoria, Max	31.43

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List of inmates at St. Francis Hospital whose board amounted to Twelve Dollars ($12.00) *or more.*

Allen, John	$13.57	Fogg, John R.	$23.43
Boniface, Salvatore	29.29	Fenton, John	17.72
Dobson, John G.	29.28	Kearney, James	39.28
Flynn, John	18.57	Miller, Samuel	47.99
Fody, Frank	37.71	Travers, Margaret	16.57
Fitzgerald, William	143.56	Wonzitz, Jennie	20.57

List of inmates at Hartford County Tubercular Sanatorium whose board amounted to Twelve Dollars ($12.00) *or more.*

Brown, James	$50.27	Girard, Edmund	$66.06
Benson, Algot	211.12	Garrison, Fred S.	27.71
Berkovitch, Freda	102.84	Hoar, Ann	205.11
Barry, William	31.43	Hogan, Patrick	44.56
Broadbent, James	172.01	Huvane, Austin	17.71
Berkovitch, Nettie	69.13	Hennessey, Henry	95.30
Buckley, John	126.12	Hyland, Edward	58.27
Cowles, John C.	41.14	Hollister, Wells	36.00
Cooke, Edwin T.	214.17	Josephs, Michael	50.27
Camp, Annie	208.53	Johnson, John	77.70
Cohen, Rose	47.99	Joslin, Louis	108.79
Cohen, Celia	208.53	Jeffers, Abraham	14.86
Curtin, Margaret	166.24	Kaplan, Samuel	42.27
Cross, Helen	135.95	Kennedy, Morris	220.52
Curtin, Mary	107.57	Kuenhold, Catherine	55.42
Cronnican, Michael	65.61	Kearns, Joseph F.	47.43
Coakley, Keron	14.86	Kearney, Patrick	50.28
Delaney, John F.	12.57	Kechia, Anthony	52.56
Dower, Patrick	126.05	Lanchizo, John	111.41
Doolan, Nicholas	58.84	Lindsay, Thomas	150.83
Daley, Catherine	43.42	Labardie, Omar	101.12
DeLucca, Christine	25.71	Lyons, James	196.32
Daley, Elizabeth	96.75	Lucid, George P.	88.91
Dobson, Joseph A.	76.51	Manigault, John C.	37.50
Dillon, Irene	70.13	Mahoney, Margaret	64.72
Egan, Frank	77.13	Morgan, Edward	32.00
Ford, Annie	35.42	McDonough, John	147.00
Frost, Carl	58.85	McCann, Daniel	151.76
Farrell, John	17.71	McCarthy, Mary	24.57
Foley, William	214.36	McLaughlin, John J.	39.29
Fuller, Lena	124.55	Narog, Joseph	119.40
Foley, Robert E.	24.00	O'Brien, Patrick	205.59
Feeney, Catherine	36.57	Olechefski, Eva	109.62
Fitzpatrick, George	44.55	Olechefski, Edward	115.12
Grasso, Frank	214.32	O'Brien, Daniel J.	100.21
Gerstein, Ethel	130.34	O'Neil, Michael	120.37

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O'Beirne, Aloysius T.	$38.71	Sturtzel, Henry	$37.71
Prendergast, Chas. L.	177.11	Sharples, Peter F.	115.97
Porter, Frank J.	215.57	Sullivan, Michael,9th	150.52
Plosinski, Charles	52.56	Salvatore, Louis	65.13
Podrebaritz, Nicholas	218.67	Seal, Margaret	27.43
Prichepa, Clara	171.82	Sireno, Pacifica	22.86
Paluch, Catherine	41.13	Schultz, Albert A.	33.94
Perkins, George H.	14.28	Schiebenbogen, John	73.65
Pivnick, Leah	142.99	Wilson, Frederick J.	24.58
Pahanich, John	81.47	Waugh, Grace	200.96
Reynolds, Robert	215.31	Ward, Patrick J.	221.21
Rodeck, Agnes	37.70	Welch, James	47.99
Reidal, George H.	97.54	Wade, William J.	83.48
Rakietan, Morris	20.57	Welch, Ellen	14.85
Ryzor, Frank	39.28	Wright, Joseph	12.57
Stetson, Stella	18.29	Welch, John	26.28
Shea, Timothy	75.78	Wiseblatt, Sophia	89.95
Smith, Robert H.	219.28	Wells, Edward	84.75
Smith, Edward	211.44	Wilson, Abraham	55.21
Shereshevsky, Benj.	66.20	Young, Albertina	217.51
Sullivan, Mary	208.50	Zembko, Bridget	84.56

List of inmates at New Haven County Tubercular Sanatorium whose board amounted to Twelve Dollars ($12.00) *or more.*

Allen, John	$109.04	Gerstein, Ethel	$26.28
Bowman, Ellen	208.54	Lotz, Mary	17.71
Curtin, Margaret	26.28	Wiseblatt, Sophia	26.28
Daley, Elizabeth	26.28		

List of inmates at Fairfield County Tubercular Sanatorium whose board amounted to Twelve Dollars ($12.00) *or more.*

Hill, Gordon	$24.58	Hennessey, Henry	$14.86

Nativity of Patients admitted to the Hospitals.

United States	172	Germany	2
Ireland	37	Scotland	2
Russia	17	England	2
Poland	11	Roumania	2
Italy	11	France	2
Sweden	9	Denmark	2
Canada	9	Switzerland	1
Austria	4	Lithuania	1

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Names of City Patients who Died in the Hartford Hospital

Bortz, Florence
Drexler, Abraham
Dobmier, Louise
Hyland, Thomas
Jones, Mary
Kinarney, Agnes
Leahy, David
Missal, Ida
Oppelt, Earl
Oppelt, Ruth
Rabinovitz, Joseph
Rabinovitz, Bertha
Robreski, Nellie
Sharples, John
Singer, Lillian
Wernick, Paula

Names of City Patients who died in St.Francis Hospital.

Cummings, Daniel
Goddard, Joseph
Unknown Man

Names of City Patients who Died in Hartford County Tubercular Sanatorium.

Brown, James
Daley, Catherine
Dobson, Joseph A.
Foley, Robert
Fuller, Lena
Hogan, Patrick
Hennessey, Henry
Kearns, Joseph
Kechia, Anthony
Lyons, James
Lindsay, Thomas
Lanchizo, John
Michael, Joseph
Manigault, John C.
McCann, Daniel
O'Brien, Daniel J.
Plosinski, Charles
Reardon, James
Rodeck, Agnes
Shereshevsky, Ben
Sturtzel, Henry
Sollo, Dominic
Saunders, John
Sayers, John
Sharples, Peter
Shea, Timothy
Sireno, Pacifica
Shultz, Albert A.
Schiebenbogen, John
Waugh, Grace
Wood, Charles
Welch, Ellen
Wilson, Fred J.

No patients died at New Haven County Sanatorium.
No patients died at Fairfield County Sanatorium.
A total of 52 deaths.
Of this number 9 were buried by the City.

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OPERATING ROOM—CITY HOSPITAL.

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INSANE.

Two hundred ninety-two persons have been cared for in the various asylums outside of the Almshouse, as follows:

	Males	Females	Total
Conn. Hospital, Middletown, Conn.,...	122	139	261
Norwich Insane Hospital, Norwich, Conn.	1	0	1
Retreat for Insane, Hartford, Conn.,...	0	3	3
School for Imbeciles, Lakeville, Conn.,..	16	11	27
	139	153	292

Of this number 259 remain on expense April 1, 1913.

Nativity.

United States	161	Denmark	3
Ireland	74	Austria	2
Germany	16	Poland	2
Russia	9	Canada	1
England	8	Bohemia	1
Italy	7	Switzerland	1
Sweden	6	Nova Scotia	1

Inmates at the Connecticut Hospital for Insane.

Anderson, Lars	$104.58	Beakley, Aura M.	104.58
Atwell, Charles W.	66.29	Bailardo, Candalaro	104.58
Ahern, Peter D.	8.29	Bowe, William	42.57
Billings, John H.	104.58	Barnum, Carrie M.	76.57
Broderick, Mary A.	104.58	Burns, Nora	104.58
Belden, Fannie	104.58	Barrett, Minnie A.	46.28
Barry, Margaret	104.58	Burdick, Herbert C.	87.72
Bow, Julia	104.58	Bolan, William	10.86
Breen, Rose	104.58	Curry, William	$104.58
Bradley, William	104.58	Callahan, John	104.58
Bartholdi, Rose	104.58	Cavanaugh, Ellen	104.58
Bzdon, Annie	104.58	Caffrey, Bridget	104.58
Bacharack, Delia	104.58	Conliffe, John	104.58
Berry, Mary E.	104.58	Christianson, Samuel	104.58
Baumstein, Charles	104.58	Condron, Mary	104.58
Bolan, Matthew	104.58	Corrigan, Bridget	104.58
Boland, Eliza	104.58	Cox, Elizabeth	104.58
Billups, Hattie	104.58	Cosgrove, Helen	104.58

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Curtin, Johanna....$104.58
Cashman, Kate.....104.58
Connorton, James...104.58
Carlo, Marie.....104.58
Curran, Margaret ...104.58
Connors, Thomas....104.58
Coston, Walter C....104.58
Cuddigan, Dennis ...104.58
Case, James H.....104.58
Colson, Charles.....104.58
Carey, Ellen.....104.58
Curtis, Algernon A...104.58
Corcoran, Annie F. ..104.58
Condron, John.....104.58
Crawshaw, Emma... 94.87
Crowley, Rose..... 14.00
Cowles, Samuel..... 49.15
Cowles, Frank..... 29.43
Cohen, Isaac..... 51.15
Claffey, Thomas..... 31.72
Duggan, Julia.....104.58
Duff, Daniel.....104.58
Dailey, Patrick.....104.58
Doe, John.....104.58
Donovan, Margaret..104.58
Dailey, Thomas.....104.58
Dankers, Barbara ...104.58
Dunn, Bernard.....104.58
Daley, James P.....104.58
Dunlap, Isabella.....104.58
Dolan, Bridget.....104.58
Doyle, James.....104.58
Ducey, John J.....104.58
Degnan, Elizabeth...104.58
Dacey, James.....104.58
Delin, Lily P..... 10.86
Dolan, Elizabeth.... 68.29
Egan, Catherine.....104.58
Englehardt, Theresa .104.58
Ewings, Harry.....104.58
Fitzgerald, John.....104.58
Fitzgerald, Patrick...104.58
Finnerty, Mary.....104.58
Farrell, Elizabeth....104.58
Farrell, Mary A. 104.58
Faign, Ann.....104.58
Fletcher, William V. 104.58
Francolini, Prospero..104.58

Furey, Martin J....$104.58
Fitzgerald, Joseph J..104.58
Fultner, Adolph.....104.58
Frazer, Mary.....104.58
Fanning, Agnes.....104.58
Fitzpatrick, Bridget . 13.71
Fosler, Harry..... 49.15
Fitzgerald, Mary.... 4.57
Golden, Bernard.....104.58
Garvin, Jennie.....104.58
Greenbaum, Bernard 104.58
Goff, Kate.....104.58
Gunning, Ellen.....104.58
Gorman, Kate 104.58
Garritty, Bridget....104.58
Gunther, Louisa.....104.58
Graesser, Kate.....104.58
Grevel, John.....104.58
Gagliardo, Rokina...104.58
Guiney, James.....104.58
Girard, Josephine.... 53.86
Holmes, Henry.....104.58
Hanlon, Mary..... 48.57
Holz, Edward.....104.58
Hood, Jane.....104.58
Hunt, Bridget A.....104.58
Hawkins, Frank.....104.58
Hills, Mertis S.....104.58
Henson, Samuel.....104.58
Hamilton, Elizabeth .104.58
Hills, H. Oscar.....104.58
Hanna, Mary.....104.58
Harris, Thomas, 2nd.104.58
Hass, Selena.....104.58
Hynes, John.....104.58
Harrison, Helena.... 66.28
Hodge, Cora..... 96.58
Hyland, Mary..... 29.14
Hemminger, Emily .. 76.01
Hubbell, Horace C... 61.72
Haub, Otto..... 13.71
Johnson, Huldah....104.58
Knappe, Anna.....104.58
Kelly, Mary, 3d.....104.58
Kelleher, Patrick....104.58
Kemmerer, Amelia...104.58
Kreuzer, George.....104.58
Kelley, Julia.....104.58

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Knickerbocker, Geo. $104.58
Kashner, Isaac.....104.58
Katz, Leah.....104.58
Kennedy, Margaret..104.58
Kelly, James.....104.58
Kittell, William B.... 26.29
Lennox, Kate.....104.58
Lutz, Marie.....104.58
Lavin, Bridget.....104.58
Lee, John F.....104.58
Lashaway, Joseph...104.58
Lee, M. Angelo.....104.58
Ledwith, Mary A....104.58
Loveland, Wilbur F. 104.58
Laconche, Mary..... 72.00
Landrigan, Michael.. 18.79
Morgan, Ann.....104.58
Moody, Minnie S....104.58
Markham, Erwin C. 104.58
Muldoon, Joseph....104.58
Moriarty, Patrick ...104.58
Mulrane, Bridget....104.58
Maloney, Annie.....104.58
Menze, Veronica.....104.58
Murphy, Patrick, 2nd104.58
Mullen, Catherine ..104.58
Muldoon, Margaret..104.58
Murray, Hugh J. 104.58
Maasen, Mary.....104.58
Miller, Mary, 2nd...104.58
Myers, Philip.....104.58
Margaolis, Hannah..104.58
Mulcahy, William...104.58
Mulcahy, Mary A....104.58
Malone, Sarah.....104.58
Mooers, Albert J.....104.58
Murray, Joseph 104.58
Murray, Mary E.....104.58
Madsen, John.....104.58
Murphy, Thomas....104.58
Main, Nellie..... 81.15
Morse, Harriett L.... 26.00
McAdams, John.....104.58
McNamara, Bridget .104.58
McLaughlin, Sarah ..104.58
McCarthy, Catherine 104.58
McGrath, Alice 104.58
McCarthy, Mary....104.58
McCabe, Thomas...$104.58
McCarthy, Cornelius 104.58
McCue, John..... 41.36
Newport, August....104.58
Northwood, George..104.58
Nordfuss, Anna.....104.58
Newsham, William ..104.58
Nolan, James F.....104.58
Nicholas, Helen.....104.58
Nichols, James..... 29.15
O'Neil, Catherine....104.58
O'Brien, Catherine ..104.58
O'Brien, Margaret...104.58
O'Connell, Michael, 2 104.58
O'Donnell, Ellen 28.00
Osbourne, Catherine 22.57
Oliver, Christine..... 6.57
Prindewald, John....104.58
Purcell, Pierce 104.58
Pease, Ansel L.....104.58
Porter, Jennie..... 32.00
Portlock, Eliza..... 12.96
Quigley, Annie.....104.58
Quinn, Louis.....104.58
Ryan, Ellen F.....104.58
Roberts, Charles C...104.58
Roach, Catherine, 2d 104.58
Radigan, Annie.....104.58
Reynolds, Mary, 2nd 104.58
Redigan, Annie.....104.58
Rafferty, Margaret .104.58
Roberto, Rosina..... 51.44
Stapleton, Ann.....104.58
Stapleton, Ann, 2nd .104.58
Sweeney, Annie.....104.58
Swain, Charles H....104.58
Sloan, John F.....104.58
Sorako, Max.....104.58
Swanson, Maria..... 85.82
Swenson, Mary.....104.58
St. John. Mary 104.58
Schmidt, William....104.58
Silinsky, Martin.....104.58
Smith, Charles.....104.58
Seiforth, Amelia.....104.58
Stapleton, Matthew J.104.58
Sears, Mary.....104.58
Synnott, Joseph.....104.58

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Sullivan, Michael	$97.43	Waldeck, Otelie	$104.58
Shepard, Walter Y.	104.58	Wheelock, Adelaide S.	104.58
Stickler, Solomon	104.58	Wizorick, Valentine	104.58
Stapleton, John	104.58	White, David A.	104.58
Spellman, Laura	104.58	Wyman, Simon	104.58
Sisson, Carrie H.	104.58	Wall, Dennis W.	104.58
Smith, Frank W.	104.58	Warren, Charles N.	104.58
Schirmaier, Llilian	104.58	White, Thomas J.	104.58
Terk, Armand	104.58	Weildon, Ferdinand W	104.58
Tatem, Frank	104.58	Weir, Mary	104.58
Towne, Mary	104.58	Welch, Elizabeth	104.58
Tanner, Ida	104.58	Wilcox, Warren W.	86.29
Terrett, Mary	104.58	Wallace, Bridget	86.00
Thomas, Charles H.	90.11	Zoels, Elizabeth	104.58
Toohey, Thomas	38.57		

Inmates at School for Imbeciles.

Byles, Florence	$100.90	Kuenhold, Harry	$117.16
Berry, John	123.41	Klein, Philip	109.46
Cantervitz, Louis	116.45	Lettieri, Philomena	112.38
Covello, Lena	112.92	Langton, Howard	133.11
Costello, Edward	117.41	Langton, Helen	108.37
Dunham, Richard	105.75	Moore, Caroline	108.32
Fallon, Ellen	103.60	Persky, Joseph	31.57
Griffith, Clara	104.15	Rourke, Edward	78.89
Hubbard, Bessie	110.84	Rafferty, Thomas	89.79
Hoxie, Edna	100.00	Saunders, Clark F.	80.71
Healey, James	112.85	Vettorello, Louis	104.30
Hanna, Raymond	93.89	Yacovone, Nicholas	111.35
Krull, Royal	115.85	Zibides, Columba	100.00
Keenan, Viola	104.60		

Inmates at Retreat for Insane, Hartford.

Ball, Matilda C.	$104.00	Miller, Lucy	$10.29
Morse, Hattie D.	8.00		

Inmate at Retreat for Inane, Norwich.

Hines, William $130.84

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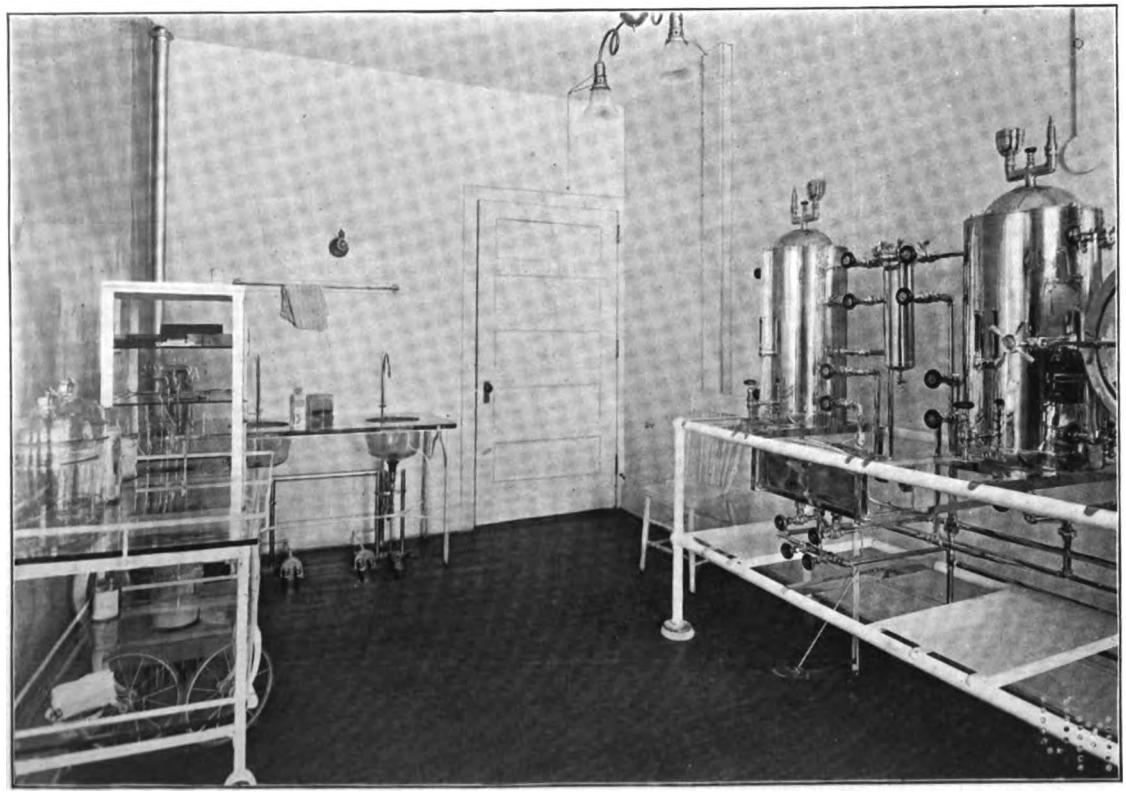

STERILIZING ROOM—CITY HOSPITAL.

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DISBURSEMENTS.

Statement showing in detail the disbursements of the various accounts, together with a summary.

Almshouse.

Meat and fish,	$12,097.97
Provisions, food supplies,	10,145.35
Bread,	2,738.63
Milk,	3,579.18
Tobacco, snuff and pipes,	709.37
Medicines and medical supplies,	3,715.60
Rubber goods,	548.43
Blankets, spreads and pillows,	230.90
Men's clothing, hats and supplies,	1,264.64
Dry goods, women's clothing, etc.,	1,663.49
Shoes, slippers and supplies,	380.70
Lumber,	595.92
Paints, oils, brushes and supplies,	171.61
Hardware, tools and supplies,	157.97
Lime, cement, mops, pails, brooms,	76.40
Sheet iron, tin and metal supplies,	44.38
Electric lighting,	1,702.37
Electric wiring and fixtures,	119.44
Plumbing and steamfitting supplies..,	942.06
Furniture supplies and repairs,	169.11
Crockery and table ware,	77.18
Washing materials, soap and tallow,	360.36
Insurance account,	969.11
Coal,	9,666.28
Burial expenses,	100.00
Newspapers,	16.00
Water supply,	1,635.70
Taxes,	40.80
Telephone rent,	82.40
Feed for stock,	420.49
Straw for bedding,	16.70
Blacksmith work and horseshoeing,	201.25
Repairs on teams,	78.15
Harness supplies and repairs,	50.10
Garden seeds, plants and shrubs,	72.24
Sundries account	414.88
Dentist service,	10.00
Awning account,	124.55
Printing and stationery,	213.30

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Disinfectants,	$202.00
Wire work,	108.75
Eradicating rats,	67.00
Extra medical services,	5.00
Repairs on sheds,	150.00
Floor and scrub brushes,	38.00
Spectacles,	12.00
Vaccinations,	114.50
Repairing artificial leg,	25.00
Repairing slate roofs,	169.75
Repairs on gutters and eaves,	75.97
New Wills-ite floor,	65.00
Extra nurse hire—contagious cases,	255.00
Salary of steward,	660.00
Salary of supervisor,	600.00
Salary of pharmacist and hospital steward,	840.00
Salary of barnman,	300.00
Salary of engineer,	780.00
Salary of night engineer and watchman,	600.00
Salary of inmates' cook,	420.00
Salary of officers' cook,	555.00
Salary of infirmary cook,	570.00
Salary of clerk,	240.00
Salary of matron,	360.00
Salary of nursery matron,	415.00
Salary of head nurse,	790.00
Salary of nurses,	3,368.50
Salary of orderlies,	585.75
Salary of maids,	1,528.30
Salary of laundress,	336.00
Salary of assistant laundress,	222.00
Salary of housekeeper,	360.00
	$70,421.53

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FEMALE DORMITORY—ALMSHOUSE. (9)

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Outdoor Poor.

Rent of tenements,	$1,955.00
Aid of aged and infirm,	137.57
Medicines and medical supplies,	680.43
Burial expenses,	56.00
Shoes,	5.70
Transportation,	453.70
Sundries, petty cash account,	88.39
Provisions, storeroom,	272.69
Rent, storeroom and dispensary,	808.00
Cleaning storeroom and dispensary,	120.00
Paper, twine, bags, etc.,	5.48
Insurance, storeroom and dispensary,	6.25
	$4,589.21

Hospitals and Asylums.

Hartford Hospital,	$6,930.22
St. Francis Hospital,	504.60
Burials from hospitals,	40.00
Connecticut Hospital, Middletown,	24,409.39
Retreat for Insane, Hartford,	122.29
School for Imbeciles, Lakeville,	2,808.03
Home for Incurables, Newington,	247.00
House of the Good Shepherd,	39.00
St. Peter's Church Corporation,	97.50
St. Joseph's Church Corporation,	108.00
St. Patrick's Church Corporation,	136.50
St. Augustine's Church Corporation,	78.00
Immaculate Conception Church Corporation,	136.50
Hartford County Tuberculosis Sanatorium,	10,814.06
New Haven County Tuberculosis Sanatorium,	331.37
Fairfield County Tuberculosis Sanatorium,	148.48
Norwich Insane Asylum,	130.84
	$47,082.18

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Office Expenses.

Salary of superintendent,	$2,000.00
Salary of clerk,	1,800.00
Salary of assistant clerk,	715.00
Stationery,	66.49
Rent of telephone,	72.71
Newspapers,	8.00
Printing books and blanks,	201.70
Electric lighting,	14.30
Cleaning office,	120.00
Insurance Account,	14.10
Sundries, petty cash account,	115.77
Rent of office,	808.00
Printing reports,	68.50
Decorations,	10.00
	$6,014.57

Miscellaneous Account.

Salary of physician,	$1,200.00
Salary of investigator,	1,493.75
Probate fees,	189.95
Transportation of sick,	78.30
Transportation of insane,	90.80
Examination of insane,	60.00
Transportation of City Physician,	600.00
Care of Leper and Smallpox patients,	1,011.43
Acting City Physician,	46.67
	$4,770.90

Summary of Disbursements.

Almshouse,	$70,421.53
Outdoor poor,	4,589.21
Hospitals and asylums,	47,082.18
Office expenses,	6,014.57
Miscellaneous,	4,770.90
	$132,878.39

Amounts Collected and Paid City Treasurer.

Superintendent of Almshouse,	$ 191.29
Support of poor in Almshouse,	4,074.59
Support of outdoor poor,	410.71
Support of poor in hospitals,	3,578.30
Support of insane,	982.83
	$9,237.72

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Net Expense of Caring for Poor.

Almshouse,		$66,155.65
Outdoor poor,		4,178.50
Hospitals and asylums,		42,521.05
Office expenses,		6,014.57
Miscellaneous,		4,770.90
		$123,640.67
Appropriation for the year,	$128,000.00	
Extra Appropriation	5,000.00	$133,000.00
Total disbursements,		132,878.39
Balance,		$121.61

Respectfully submitted,

WM. BROSMITH, President,
CUNO A. HELFRICHT,
FLAVEL S. LUTHER,
GEORGE B. BRADFORD,
RICHARD J. DILLON,
JOEL W. JOHNSON,
Board of Charity Commissioners.

Hartford, Conn., May 12, 1913.

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Summary of the appropriations by fiscal years, commencing with the establishment of the Board in 1896, and ending with 1913; also, a summary of disbursements for almshouse, hospitals, asylums and other accounts, amounts recovered by the Board from the State and Towns, and the net cost for the Care of the Poor and Infirm by fiscal years during the same period.

Years ending April 1st	Almshouse and City Hospital	Hospitals and Asylums	Out Door Poor	Office Account	Miscellaneous Account	Total	Appropriations for Year	Balance Unexpended	Amounts Collected from State and Towns	Net Expense to the City
1896–1897	$35,196.33	$42,581.98	$18,067.44	$5,788.43	$1,996.85	$103,631.06	$115,000.00	$11,368.94	$2,264.25	$101,366.81
1897–1898	40,255.55	32,556.16	10,582.71	4,434.44	2,134.76	89,963.62	100,000.00	10,036.38	3,444.81	86,518.81
1898–1899	41,176.21	38,616.68	9,374.66	5,042.66	2,288.90	96,499.11	96,500.00	.89	5,113.93	91,385.18
1899–1900	46,917.81	39,197.05	7,021.45	4,416.03	2,447.66	100,000.00	100,000.00	.....	3,445.96	96,554.04
1900–1901	34,050.49	38,215.97	6,628.34	4,441.31	2,383.68	85,719.79	95,000.00	9,280.21	2,296.84	83,422.95
1901–1902	36,668.86	38,714.98	6,560.00	4,702.22	2,956.15	89,602.21	98,500.00	8,897.79	2,255.68	87,346.53
1902–1903	32,403.60	39,947.90	8,934.20	4,497.30	3,095.87	88,878.87	89,000.00	121.13	2,488.69	86,390.18
1903–1904	34,495.55	41,920.94	6,650.97	5,222.71	2,709.70	91,000.00	91,000.00	.....	4,184.91	86,815.09
1904–1905	43,867.35	53,776.44	7,600.00	5,094.61	3,045.09	113,383.49	113,400.00	16.51	3,283.27	110,100.22
1905–1906	50,218.97	43,493.08	6,278.49	4,743.32	2,993.15	107,727.01	107,729.00	1.99	1,731.98	105,955.03
1906–1907	54,255.34	45,813.63	5,614.13	5,221.88	2,995.02	113,900.00	113,900.00	.....	2,928.03	110,971.97
1907–1908	55,779.54	39,207.61	5,001.65	5,284.20	3,727.00	109,000.00	109,000.00	.....	5,473.85	103,256.15
1908–1909	61,395.43	47,447.27	5,934.64	5,317.69	3,737.66	123,832.69	124,000.00	167.31	19,927.98	103,904.71
1909–1910	65,838.36	42,897.90	5,450.49	5,529.92	3,539.09	123,255.76	124,000.00	744.24	17,698.90	105,556.86
1910–1911	65,919.66	42,111.29	5,167.34	5,616.54	3,869.65	122,684.48	128,000.00	5,315.52	12,312.44	110,372.04
1911–1912	72,880.50	39,931.85	5,177.50	5,761.33	4,237.51	127,988.69	130,000.00	2,011.31	11,053.49	116,935.20
1912–1913	70,421.53	47,082.18	4,589.21	6,014.57	4,770.90	132,878.39	133,000.00	121.61	9,237.72	123,640.67

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The omission of pages 765 to 773 is due to an error in printing. There is no matter omitted.

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Summary of the appropri lishment of the Board in 1896, and ending with 1913 use, hospitals, asylums and other accounts, amounts r s, and the net cost for the Care of the Poor and Infir

Years ending April 1st	Almshouse and City Hospital	Hospitals and Asylums	Out I	ce ded	Amounts Collected from State and Towns	Net Expense to the City
1896–1897	$35,196.33	$42,581.98	$18,(	.94	$2,264.25	$101,366.81
1897–1898	40,255.55	32,556.16	10,(	.38	3,444.81	86,518.81
1898–1899	41,176.21	38,616.68	9,(	.89	5,113.93	91,385.18
1899–1900	46,917.81	39,197.05	7,(	.....	3,445.96	96,554.04
1900–1901	34,050.49	38,215.97	6,(	.21	2,296.84	83,422.95
1901–1902	36,668.86	38,714.98	6,(	.79	2,255.68	87,346.53
1902–1903	32,403.60	39,947.90	8,(	.13	2,488.69	86,390.18
1903–1904	34,495.55	41,920.94	6,(	.....	4,184.91	86,815.09
1904–1905	43,867.35	53,776.44	7,(	.51	3,283.27	110,100.22
1905–1906	50,218.97	43,493.08	6,(	.99	1,731.98	105,955.03
1906–1907	54,255.34	45,813.63	5,(	.....	2,928.03	110,971.97
1907–1908	55,779.54	39,207.61	5,(	.....	5,473.85	103,256.15
1908–1909	61,395.43	47,447.27	5,(	.31	19,927.98	103,904.71
1909–1910	65,838.36	42,897.90	5,(	.24	17,698.90	105,556.86
1910–1911	65,919.66	42,111.29	5,(	.52	12,312.44	110,372.04
1911–1912	72,880.50	39,931.85	5,(	.31	11,053.49	116,935.20
1912–1913	70,421.53	47,082.18	4,(	.61	9,237.72	123,640.67

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Sigourney Square	Elizabeth Park
9	
17	
69	
33	
102	

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REPORT

OF THE

Board of Park Commissioners

AND THE

Special Commission

ON

Public Cemeteries

FOR THE

Year Ending April 30, 1913

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PARK COMMISSIONERS

1912–1913

HON. LOUIS R. CHENEY, (Mayor) *ex officio*

CHARLES E. GROSS
Until May 1, 1913

FRANCIS PARSONS
Until May 4, 1918

THOMAS S. WEAVER
Until May 1, 1914

DR. GEORGE C. F. WILLIAMS
Until May 1, 1915

MICHAEL A. SULLIVAN
Until May 11, 1916

WILLIAM A. MOORE
Until April 30, 1917

LYMAN B. BRAINERD
Until May 1, 1919

JAMES GOODWIN
Until May 1, 1920

MRS. A. R. HILLYER
Until May 1, 1921

GUY E. BEARDSLEY
Until May 1, 1922

OFFICERS

UNTIL MAY 1, 1913.

President—LYMAN B. BRAINERD
Vice-President—THOMAS S. WEAVER

Cemetery Agent and Secretary.
FRANKLIN G. WHITMORE

Superintendent of Parks
GEORGE A. PARKER

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COMMITTEES APPOINTED

For the Year Ending May 1, 1913

Ancient Cemetery, Commissioner Beardsley.
Barnard Park, Commissioner Weaver.
Buckingham Square, Commissioner Weaver.
Bushnell Park (West), Commissioner Moore.
Bushnell Park (East), Commissioner Mrs. Hillyer.
Campfield Green, Commissioner Sullivan.
Colt Park, Commissioner Gross.
Elizabeth Park, Commissioner Parsons.
Franklin Green, Commissioner Brainerd.
Goodwin Park, Commissioner Brainerd.
Lafayette Green, Commissioner Mrs. Hillyer.
Pope Park, Commissioner Sullivan.
Riverside Park, Commissioner Goodwin.
Rocky Ridge Park, Commissioner Sullivan.
Sigourney Park, Commissioner Beardsley.
Tunnel Green, Commissioner Weaver.
Village Street Green, Commissioner Beardsley.
Washington Street Triangle, Commissioner Mrs. Hillyer.
Finance Committee, Commissioners Parsons, Brainerd and Beardsley.
Employment Committee, Commissioners Sullivan and Weaver.
Amusement Committee, Commissioners Mrs. Hillyer and Gross.
Committee on Public Cemeteries, Commissioners Parsons and Goodwin.
Cemeteries Agent, Franklin G. Whitmore.

(For Officers elected May 1, 1913, see Page —)

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REPORT

OFFICE OF THE BOARD OF PARK COMMISSIONERS.
CITY OF HARTFORD.

May 1, 1913.

To the Honorable Court of Common Council.

GENTLEMEN:—

The Board of Park Commissioners presents its Fifty-third Annual Report, and the Fifth Annual Report of the Public Cemeteries which are under its control. Superintendent George A. Parker's statement to the Board of the work accomplished in the various parks during the past year is included within the pages of this report.

In April, Mr. Charles Hopkins Clark tendered his resignation as Commissioner. At a special meeting held June 28th, Dr. George C. F. Williams was chosen a Commissioner until May 1st, 1915 to fill the vacancy caused by Mr. Clark's resignation. His appointment was duly approved by the Honorable Board of Aldermen. The vacancy in the Board caused by the retirement of Mr. Lucius F. Robinson who served as a Commissioner seventeen years was filled by the appointment of Mr. Guy E. Beardsley, who was unanimously chosen a Commissioner for ten years from May 1st, 1912. His appointment was also approved by the Honorable Board of Aldermen .

The Honorable Court of Common Council appropriated to this department the sum of Twenty-Five Hundred Dollars for the purpose of development, equipment and care of property secured under lease and otherwise for playground purposes. The

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Superintendent in his report gives an account of the expenditure of this money, and the various playgrounds which were in use during the past season.

Commissioner Charles E. Gross presented a deed to the city of a triangular piece of land in Colt Park, and in presenting same agreed to sell to the city certain other land connected therewith if the city desired it, when his term of office as Commissioner shall have expired. This piece of land was much needed on account of a walk which was to be built across Colt Park from Wethersfield Avenue to join Hendricxsen Avenue.

Commissioner Gross presented to the Board the sum of Seven Hundred Dollars from the estate of Mrs. Elizabeth H. Colt to be expended for the purpose of a suitable iron fence to be erected about the Colt Memorial in Colt Park. This fence has been constructed and will serve the purpose as a protection to the monument.

Commissioner Charles E. Gross' (whose portrait appears on the frontispiece in this report) term of office expired May 1, 1913. having served eighteen (18) years continuously as Commissioner. The Board deeply regrets his retirement, and the following resolution was spread upon its records:

"RESOLVED:—That the members of the Board of Park Commissioners of the City of Hartford place upon record their regret that, owing to the expiration of his term of office Mr. Charles E. Gross is no longer of their number. The value and importance of the services rendered by Mr. Gross during his eighteen years' connection with the Board cannot easily be estimated. Elected on March 20th, 1895, and re-elected on May 4th, 1903, he has twice been President, and at all times his extensive and accurate legal knowledge has been of the greatest possible assistance to his fellow-members, while his eager interest and fine enthusiasm for all that concerned the welfare of the

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Parks of Hartford, and his steadfastness of purpose in following up every matter that in any degree affected their development, have accomplished far more for their permanance and improvement than can be set down here.

In his personal relations with the other members of the Board, Mr. Gross has been uniformly courteous, considerate and gracious, and his colleagues desire to put upon record not only their appreciation of his notable services, but also their sense of his sympathetic co-operation in their common work."

The use of the parks by the public during the season of 1912 was much increased. Superintendent Parker reports that 665,000 people were in attendance, enjoying the various activities of the parks. The season of 1913 gives promise of larger attendance, and it is estimated that over a million people will probably visit the parks and will enjoy the many sports and games which afford recreation and amusement.

The public cemeteries under the jurisdiction and care of this Department have been improved, and the demand for burial lots is steadily increasing. Reference to the Fifth Annual Report will show the expenditures and the work accomplished during 1912.

Respectfully submitted,

BOARD OF PARK COMMISSIONERS,

LYMAN B. BRAINERD, *President.*

Attest:

FRANKLIN G. WHITMORE, *Secretary.*

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Financial Statement

RECEIPTS.

Amounts received from City Treasurer by warrants drawn during the year to March 31, 1913, as follows:

1912	Cash balance on hand March 31st.....	$2,716 15	
April	Tax Fund, Warrant No. 449.....	2,500 00	
May	Tax Fund, Warrant No. 450.....	9,889 23	
June	Tax Fund, Warrant No. 452.....	11,815 11	
July	Tax Fund, Warrant No. 454.....	10,981 08	
August	Tax Fund, Warrant No. 456.....	11,024 01	
September	Tax Fund, Warrant No. 458.....	5,633 51	
September	Tax Fund, Warrant No. 460.....	2,720 00	
October	Elizabeth Park Fund, Warrant No. 461	450 00	
October	Tax Fund, Warrant No. 462.....	13,445 92	
November	Tax Fund, Warrant No. 464.....	3,470 00	
December	Tax Fund, Warrant No. 465.....	2,962 57	
December	Elizabeth Park Fund, Warrant No. 467	100 00	
1913.			
January	Tax Fund, Warrant No. 468.....	2,776 13	
February	Tax Fund, Warrant No. 470.....	2,304 07	
March	Tax Fund, Warrant No. 471.....	4,709 24	
			$87,497 02

Amounts received and credited to the various parks and other accounts during the year, as follows:

Rentals .....$	730 00
Colt Park—Gift from Elizabeth H. Colt Estate, to complete Colt Memorial	700 00
Sale of Bedding	15 75
Pope Park—Approaches to bridge, reimbursement by Street Department	500 00
"Lost" Advertisement refunded	25
Bushnell Park—Sale of Ducks	2 70
Elizabeth Park—Overpaid bill	5 33
Park Service -Water used on leased premises in Colt Park	63 36

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Heating caretaker's house at Riverside Park	51 76	
Gas used at Pond House	5 13	
Park Activities—Golf	545 00	
Tennis	15 20	
Business Operations—Lambs sold	370 00	
City Hall Square	400 00	
Outside work	893 20	
Gardening—Trees sold	12 00	
Rebate on plants and express	2 26	
Administration and General Expense—Secretary's office, telephone calls, extension, etc.	24 25	
Superintendent's office, telephone calls, etc.	13 92	
Refectory	2,932 20	
		$7,282 31
Total Receipts		$94,779 33

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EXPENDITURES.

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
1912				
Apr. 3	Park Pay Roll,	1218	No. 1,	$475.85
10	Park Pay Roll,	1219	No. 2	850.09
17	Park Pay Roll,	1220	No. 3,	1035.21
24	Park Pay Roll,	1221	No. 4,	978.54
29	Blakeslee Novelty Co.,	1222	Package straps,	1.75
May 1	Park Pay Roll,	1223	No. 5,	1135.17
	Elmer Automobile Co.,	1224	Ford Tour. Car,	715.00
8	Park Pay Roll,	1225	No. 6,	1176.11
	Allen, Russell & Allen,	1226	Insurance prem.	85.44
	Armour and Co.,	1227	Refectory sup.,	4.84
	A. W. Anderson Estate,	1228	Horse shoeing,	9.50
	Edward Balf Co.,	1229	Cartage,	5.10
	Beardsley & Beardsley,	1230	Insurance prem.	30.00
	Bishop Ladder Co.,	1231	Ladders,	19.00
	Biltmore Nursery,	1232	Seeds & Plants,	15.68
	Board of Water Commissioners,	1233	Water,	127.56
	Bryant & Chapman,	1234	Refectory sup.,	.24
	Brown, Thompson & Co.,	1235	Lighting sup.	12.00
	Cadwell & Jones,	1236	Tools & supplies,	40.41
	Case, Lockwood & Brainard Co.,	1237	Office supplies,	5.40
	Benjamin Chase Co.,	1238	Labels,	10.92
	Charles Coburn,	1239	Cement,	3.50
	Connecticut Institute for Blind,	1240	Brooms,	8.00
	L. C. Daniels Grain Co.,	1241	Feed,	38.96
	Dexter Photo Co.,	1242	Photographs,	4.25
	Downing & Perkins,	1243	Cartage,	9.10
	C. H. Dresser & Son.,	1244	Post head,	.50
	Henry A. Dreer,	1245	Seeds & Plants,	85.28
	Elmer Automobile Co.,	1246	Auto repair,	1.05
	Frank D. Ellison,	1247	Plumbing,	18.46
	Elm City Nursery,	1248	Seeds & Plants,	27.00
	L. L. Ensworth & Son,	1249	Tools & Supplies,	2.60
	Fairbanks Company,	1250	Supplies,	18.63
	Flint-Bruce Co.,	1251	Park Furniture,	125.00
	Fottler, Fiske, Rawson & Co.,	1252	Seeds & Bulbs,	.25
	Goldberg-Castonguay Co.,	1253	Flag walk,	900.00
	A. S. Freeburg,	1254	Fuel,	48.92
	Hartford Bottling Works,	1255	Refectory sup.	2.10
	Hartford City Gas Light Co.,	1256	Gas,	7.02
	Hartford Electric Light Co.,	1257	Electricity,	166.75

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Hartford Market Co.,	1258	Refectory sup.,	2.09
	E. G. Hill Co.,	1259	Seeds & Plants,	18.46
	Hoffman-Corr Mfg. Co.,	1260	Supplies,	28.63
	C. E. Hubbard,	1261	Drainage pipe,	3.72
	Jacob Lyon & Sons,	1262	Zinc,	1.25
	Loose-Wiles Biscuit Co.,	1263	Refectory sup.,	4.50
	R. L. McGurk,	1264	Repair of team,	3.75
	Wm. J. McDonough,	1265	Office supplies,	7.20
	W. A. Manda,	1266	Seeds & Plants,	9.50
	W. C. Mason & Co.,	1267	Fuel,	20.64
	Joseph Merritt,	1268	Office supplies,	1.90
	Henry F. Mitchell Co.,	1269	Seeds & Plants,	18.25
	Wm. H. Moon Co.,	1270	Seeds & Plants,	9.97
	Thomas F. Murray,	1271	Charcoal Casket,	2.89
	National Cash Register Co.,	1272	Refectory sup.	1.85
	G. A. Parker,	1273	Sal. & petty cash,	191.42
	Phoenix Mutual Life Ins. Co.,	1274	Rental,	83.33
	C. A. Pease & Co.,	1275	Feed,	20.27
May 8	Plimpton Mfg. Co.,	1276	Office supplies,	44.80
	Post & Lester Co.,	1277	Auto supplies,	24.91
	C. O. Purinton,	1278	Flower pots,	16.20
	Remington Typewriter Co.,	1279	Typewriter,	50.00
	Rice & Green Electric Co.,	1280	Wiring & fixtures,	80.05
	F. Schirm & Sons,	1281	Horse shoeing,	3.50
	J. A. Scollay,	1282	Tools,	1.00
	Silver Brothers,	1283	Refectory sup.,	35.41
	Sisson Drug Co.,	1284	Supplies,	56.72
	Elmer D. Smith & Co.,	1285	Seds & plants,	3.75
	Smith-Worthington Co.,	1286	Harness supplies,	2.00
	Southern N. E. Telephone Co.,	1287	Telephone service,	63.60
	Samuel N. Spring,	1288	Trees,	11.00
	Standard Oil Co. of New York,	1289	Gasoline,	40.90
	George L. Stillman,	1290	Plants,	4.01
	Edwin Taylor Lumber Co.,	1291	Lumber,	458.06
	Tracy, Robinson & Williams Co.,	1292	Tools & sup.,	148.01
	Trout Brook Ice & Feed Co.,	1293	Refectory sup.,	1.00
	Vaughn's Seed Store,	1294	Seeds & plants,	9.85
	Wadsworth Howland & Co	1295	Paint & oils,	67.61
	W. W. Walker Co.,	1296	Refectory sup.,	4.20

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Weeks & Woods,	1297	Refectory sup.,	9.70
	F. G. Whitmore,	1298	Salary,	108.34
	Horace G. Williams,	1299	Fertilizer,	183.30
	Wise, Smith & Co.,	1300	Supplies,	2.63
	F. W. Woolworth & Co.,	1301	Refectory sup.,	.60
	Coldwell Lawn Mower Co.,	1302	Motor lawn mo'r.	1300.00
15	Park Pay Roll,	1303	No. 7,	1145.02
18	John C. Trant,	1304	Paint & labor,	151.08
22	Park Pay Roll,	1305	No. 8,	1300.88
29	Park Pay Roll,	1306	No. 9,	1342.93
June 4	A. W. Anderson Estate,	1307	Horse shoeing,	1.75
	Armour Company,	1308	Refectory sup.,	20.58
	Baldwin-Stewart Electric Co.,	1309	Desk Lamp,	5.50
	Edward Balf Co.,	1310	Cartage,	3.00
	Joseph L. Besse,	1311	Refectory sup.	20.00
	Bishop Ladder Co.,	1312	Settees,	175.00
	Cadwell & Jones,	1313	Grass seed,	70.66
	Coldwell Lawn Mower Co.,	1314	Tools & imple.,	145.00
	Connecticut Institute for Blind,	1315	Brooms,	8.00
	John Coombs,	1316	Plants,	13.00
	L. C. Daniels Grain Co.,	1317	Feed,	88.42
	Downing & Perkins,	1318	Cartage & fr'ght.	35.01
	Henry A. Dreer,	1319	Plants,	10.95
	Eastern Fountain Co.,	1320	Fountain,	6.75
	L. L. Ensworth & Son,	1321	Supplies,	1.42
	Otto Epstein,	1322	Plumbing,	6.00
	Fairbanks Company,	1323	Supplies,	16.66
	R. N. Fitzgerald Co.,	1324	Refectory sup.,	6.25
	Hartford Bottling Works,	1325	Refectory sup.,	6.30
	Hartford City Gas Light Co.,	1326	Gas,	39.51
	Hartford Electric Light Co.,	1327	Electricity,	182.03
	Hartford Market Co.,	1328	Refectory sup.,	6.76
	E. G. Hill Co.,	1329	Plants,	13.80
	F. P. Hoye,	1330	Fertilizer,	269.60
	C. E. Hubbard,	1331	Piping,	46.10
	O. F. King,	1332	Land lime,	84.00
	Kingsley & Smith,	1333	Supplies,	53.00
	Loose-Wiles Biscuit Co.,	1334	Refectory sup.,	3.50
	Wm. J. McDonough,	1335	Office Supplies,	4.45
	Joseph Merritt,	1336	Office supplies,	.96
	H. F. Mitchell Co.,	1337	Fertilizer,	23.60

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	R. G. Miller,	1338	Fertilizer,	60.00
	Noble & Westbrook,	1339	Tools,	9.50
	George Mitchelson,	1340	Greenhouse exp.	63.50
	G. A. Parker,	1341	Sal. & petty cash,	180.74
	Harris Parker Co.,	1342	Tennis & golf sup	32.70
	C. A. Pease & Co.,	1343	Feed,	190.51
	Phoenix Mutual Life Ins. Co.,	1344	Rental,	83.33
	Post & Lester Co.,	1345	Auto supplies,	5.10
	C. O. Purinton,	1346	Flower Pots,	37.50
	Quality Flower Shop,	1347	Plants,	33.20
	C. H. Sierman,	1348	Shrubs,	29.55
	Silver Brothers,	1349	Refectory sup.,	22.31
	Sisson Drug Co.,	1350	Supplies,	28.36
	Jesse G. Smith,	1351	Office supplies,	.75
	Smith-Worthington Co.,	1352	Stable supplies,	5.45
	Standard Oil Co. of New York,	1353	Gasoline,	34.00
	Stumpp & Walter Co.,	1354	Seeds,	.40
	Taylor & Fenn,	1355	Golf supplies,	5.50
	Edwin Taylor Lumber Co.,	1356	Lumber,	67.62
	A. J. Tefft,	1357	Office supplies,	9.55
	Chas H. Totty,	1358	Plants,	8.53
	Trout Brook Ice & Feed Co.,	1359	Refectory sup.,	1.10
	Trustees of Trinity College,	1360	Rental of land,	65.88
	Wadsworth, Howland & Co.,	1361	Oil,	4.10
	D. S. Walton & Co.,	1362	Refectory sup.,	11.88
	Weeks & Woods,	1363	Refectory sup.,	4.85
	F. G. Whitmore,	1364	Sal. & petty cash,	110.34
	H. B. Whitmore,	1365	Insurance Prem.,	36.50
	C. A. Wibert,	1366	Gardening sup.,	43.00
	L. A. Wiley & Son,	1367	Office supplies,	.50
	Wise, Smith & Co.,	1368	Supplies,	6.57
	Wood & Selick,	1369	Refectory sup.,	454.73
5	Park Pay Roll,	1370	No. 10,	1259.08
12	Park Pay Roll,	1371	No. 11,	1284.82
19	Park Pay Roll,	1372	No. 12,	1479.08
26	Park Pay Roll,	1373	No. 13,	1554.23
29	Park Pay Roll,	1374	No. 14, (on acc't)	120.00
July 3	Park Pay Roll,	1375	No. 14, (bal.)	1608.81
	Harold P. Sawtelle,	1376	Rebate on locker,	5.00
5	American Pump & Engineering Co.,	1377	Implements,	65.50

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	A. W. Anderson Estate,	1378	Horse shoeing,	6.38
	Armour & Co.,	1379	Refectory sup.,	12.95
	Edward Balf Co.,	1380	Cartage & sup.,	28.50
	Joseph L. Besse,	1381	Refectory sup.,	60.00
	Billings Sidewalk & Coal Co.,	1382	Lime & cement,	10.87
	Bishop Ladder Co.,	1383	Swing,	150.00
	Board of Water Commissioners,	1384	Water,	1.68
	Bobbink & Atkins,	1385	Plants,	66.00
	Bonner-Preston Co.,	1386	Moulding,	12.21
	C. H. Brazel & Co.,	1387	Harness,	17.80
	R. D. & C. O Britton Co.,	1388	Auto hire,	36.00
	Geo. W. Burch,	1389	Special badges,	7.50
	Cadwell & Jones,	1390	Tools & supplies,	42.64
	Case, Lockwood & Brainard Co.,	1391	Office supplies,	5.00
	H. F. Chisholm,	1392	Horse & wagon,	150.00
	Conard & Jones,	1393	Plants,	26.15
	Connecticut Institute for Blind,	1394	Brooms,	8.00
	L. C. Daniels Grain Co.,	1395	Feed.,	35.19
	Geo U. Davis,	1396	Road brush,	40.00
	J. C. Dexter Photo Co.,	1397	Refactory sup.,	10.35
	Downing & Perkins,	1398	Freight & cart'e,	52.94
	Henry A. Dreer,	1399	Plants,	15.25
	Eastern Fountain Co.,	1400	Fountains,	384.00
	Frank D. Ellison,	1401	Plumbing,	5.55
	Elm City Nursery Co.,	1402	Plants,	7.50
	Empire Steam Laundry,	1403	Refactory exp.,	3.12
	L. L. Ensworth & Son,	1404	Tools & supplies,	9.47
	Fairbanks Company,	1405	Tools & supplies,	10.75
	R. & J. Farquhar & Co.,	1406	Seeds,	1.31
	Gustave Fischer & Co.,	1407	Office & b. b. sup.,	26.75
	Flint-Bruce Co.,	1408	Chairs, tab., etc.,	143.50
	Hartford Apron & Towel Supply Co.,	1409	Golf expense,	3.64
	Hartford City Gas Light Co.,	1410	Gas,	10.29
	Hart & Cooley Co.,	1411	Office supplies,	1.52
	Hartford Electric Light Co.,	1412	Electricity,	221.21
	Hartford Lumber Co.,	1413	Lumber,	33.31
	E. S. Kibbe Co.,	1414	Refectory sup.,	5.00
	Kingsley & Smith,	1415	Empty tubs,	62.90

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Loose-Wiles Biscuit Co.,	1416	Refectory sup.,	23.50
	B. L. McGurk,	1417	Tools & repairs,	23.25
	Mellen & Hewes,	1418	Refectory sup.,	.60
	Joseph Merritt,	1419	Office supplies,	4.38
	Wm. H. Moon Co.,	1420	Plants,	2.03
	Neal, Goff & Inglis Co.,	1421	Mould., paper, etc	24.53
	New Britain Machine Co.,	1422	Lockers,	217.59
	Noble & Westbrook,	1423	Badges,	10.00
	G. A. Parker,	1424	Sal. & petty cash,	172.41
	Harris Parker Co.,	1425	Supplies,	12.15
	C. A. Pease & Co.,	1426	Feed,	20.86
	Phoenix Mutual Life Ins Co.,	1427	Rental,	83.33
	Plimpton Mfg. Co.,	1428	Office supplies,	130.90
	Post & Lester Co.,	1429	Supplies,	7.30
	James Pullar Co.,	1430	Supplies,	4.50
	C. O. Purinton,	1431	Flower pots,	18.00
	Pyrene Co., of New England,	1432	Fire extinguish...	6.30
	Reade Mfg. Co.,	1433	Insecticide,	2.00
	Remington Typewriter Co.,	1434	Office supplies,	.75
	Julius Roehrs Co.,	1435	Plants,	15.50
	F. F. Schirm & Sons,	1436	Horse shoeing,	1.50
	Silver Brothers,	1437	Refectory sup.,	98.21
	Sisson Drug Co.,	1438	Supplies,	46.30
	Smith-Worthington Co.,	1439	Halter, etc.,	38.50
	Salvay Process Co.,	1440	Calcium chloride,	36.75
	Standard Oil Co. of New York,	1441	Gasoline,	49.81
	Steel Basket Co.,	1442	Carts,	20.50
	Edwin Taylor Lumber Co.,	1443	Lumber,	73.33
	Tracy, Robinson & Williams,	1444	Tools & supplies,	69.54
	J. C. Trant,	1445	Labor & supplies,	37.49
	Trout Brook Ice & Feed Co.,	1446	Refectory sup.,	6.30
	Tucker & Goodwin,	1447	Refectory sup.,	40.00
	Wadsworth & Howland Co.,	1448	Golf supplies,	1.01
	W. W. Walker & Co.,	1449	Refectory sup.,	4.89
	Weeks & Woods,	1450	Refectory sup.,	4.85
	F. G. Whitmore,	1451	Salary,	108.34
	Wise, Smith & Co.,	1452	Supplies,	6.15
	F. W. Woolworth & Co.,	1453	Refectory sup.,	3.00
	Park Pay Roll,	1454	No. 15 (on acc't.)	400.00

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
9	Cash (F. A. Hagarty),	1455	Stamped envelop.,	43.24
10	Park Pay Roll,	1456	No. 15 (bal.(	1139.05
17	Park Pay Roll,	1457	No. 16,	1264.76
24	Park Pay Roll,	1458	No. 17,	1281.52
30	George A. Parker,	1459	Sal. & petty cash,	175.04
31	Park Pay Roll,	1460	No. 18,	1432.67
Aug. 6	American Pump & Engineering Co.,	1461	Truck wheel,	7.34
	A. W. Anderson Estate,	1462	Horse shoeing,	6.75
	Aphine Mfg. Co.,	1463	Insecticide,	7.50
	Armour & Co.,	1464	Refectory sup.,	4.28
	Edward Balf Co.,	1465	Sand and stone,	32.00
	Joseph L. Besse,	1466	Refectory sup.,	30.00
	J. C. Bidwell & Co.,	1467	Tools,	.40
	J. H. Birdsall,	1468	Refectory fixt.,	150.00
	Board of Water Commissioners,	1469	Meter repairs,	3.89
	A. T. Boddington,	1470	Insecticide,	10.50
	Brady Brothers,	1471	Refectory sup.,	6.00
	C. H. Brazel,	1472	Harness supplies,	.50
	Brown, Thomson & Co.,	1473	Refectory sup.,	.60
	Bryant & Chapman,	1474	Refectory sup.,	104.46
	Buick Garage Co.,	1475	Auto rental,	35.00
	Cadwell & Jones,	1476	Tools,	11.00
	C. A. Carroll Co.,	1477	Tools,	4.20
	Benjamin Chase Co.,	1478	Gardening labels,	5.00
	I. B. Church & Sons,	1479	Refectory sup.,	1.90
	Clinton Wire Cloth Co.,	1480	Supplies,	3.50
	Coldwell Lawn Mower Co.	1481	Knives for mo'er,	15.75
	Henry Cowlishaw,	1482	Tools sharpeded,	24.00
	Downing & Perkins,	1483	Cartage & freight,	28.56
	Frank D. Ellison,	1484	Plumbing,	10.00
	Elmer Automobile Co.,	1485	Auto supplies,	.40
	Empire Steam Laundry,	1486	Refectory exp.,	6.37
	L. I. Ensworth & Son,	1487	Tools,	33.49
	Otto Epstein,	1488	Plumbing,	59.18
	Fairbanks Company,	1489	Tools,	41.88
	R. N. FitzGerald Co.,	1490	Refectory sup.,	18.75
	Ford Auto Repair Co.,	1491	Repair auto,	6.70
	G. Fox & Co.,	1492	Refectory sup.,	4.41
	Hammonds Paint Works,	1493	Paint,	33.06
	Hartford Apron & Towel Supply Co.,	1494	Golf expense,	8.80
	Hartford Bottling Works,	1495	Refectory sup.,	43.10
	Hartford City Gas Light Co.,	1496	Gas,	14.35

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Hartford Courant,	1497	Advertising,	1.50
	Hartford Electric Light Co.,	1498	Electricity	209.69
	Hartford Market Co.,	1499	Refectory sup.,	33.37
	Hartford Post,	1500	Advertising,	1.25
	Hartford Times,	1501	Advertising,	1.00
	Hoffman-Corr Mfg. Co.,	1502	Supplies,	3.87
	Hoffman Wall Paper Co.,	1503	Paint,	10.00
	W. W. Hunt & Co.,	1504	Seeds & plants,	60.45
	E. S. Kibbe Co.,	1505	Refectory sup.,	6.15
	Loose-Wiles Biscuit Co.,	1506	Refectory sup.,	3.08
	Jacob Lyon & Sons,	1507	Refectory sup.,	9.00
	W. C. Mason & Co.,	1508	Fuel,	1.50
	B. L. McGurk,	1509	Repair teams,	6.00
	Neal, Goff & Inglis Co.,	1510	Wall paper, etc.,	25.18
	Noble & Westbrook,	1511	Tools,	4.50
	Harris Parker Co.,	1512	Supplies,	10.50
	C. A. Pease & Co.,	1513	Fuel,	15.88
	Phoenix Mutual Life Ins. Co.,	1514	Rental,	83.33
	F. O. Pierce Co.,	1515	Greenhouse sup.,	1.35
	Plimpton & Hills Corp.,	1516	Water supplies,	2.05
	Plimpton Mfg. Co.,	1517	Office supplies,	83.56
	Post & Lester Co.,	1518	Auto supplies,	31.15
	M. Rosenthal,	1519	Printing,	7.00
	F. F. Schirm & Sons,	1520	Horse shoeing,	3.50
	Silver Brothers,	1521	Refectory sup.,	61.23
	Sisson Drug Co.,	1522	Supplies,	153.12
	C. H. Slocum & Co.,	1523	Gravel walk,	73.60
	Jesse G. Smith,	1524	Office supplies,	.60
	Solvay Process Co.,	1525	Calcium chloride,	273.00
	Southern N. E. Telephone Co.,	1526	Telephone service,	77.40
	A. G. Spalding & Bros.,	1527	Gymnasium app.,	94.40
	Standard Oil Co. of New York,	1528	Gasoline,	44.85
	Edwin Taylor Lumber Co.,	1529	Lumber,	518.87
	Tracy, Robinson & Williams Co.,	1530	Tools & supplies,	110.70
	Trout Brook Ice & Feed Co.,	1531	Refectory sup.,	31.65
	Tucker & Goodwin,	1532	Refectory sup.,	17.44
	E. Tucker Sons Co.,	1533	Refectory sup.,	7.05
	Weeks & Woods,	1534	Refectory sup.,	32.20
	F. G. Whitmore,	1535	Salary,	108.34

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Wise, Smith & Co.,	1536	Supplies,	5.75
	Wood & Selick,	1537	Refectory supplies	24.00
7	Park Pay Roll,	1538	No. 19,	1159.84
14	Park Pay Roll,	1539	No. 20,	1256.41
21	Park Pay Roll,	1540	No. 21,	1254.30
28	Park Pay Roll,	1541	No. 22,	1218.88
Sept. 4	Park Pay Roll,	1542	No. 23,	1224.26
5	A. W. Anderson Estate,	1543	Horse shoeing	6.00
	Edward Balf Co.,	1544	Ashes & cartage,	154.15
	Beardsley & Beardsley,	1545	Insurance,	50.62
	Joseph L. Besse,	1546	Refectory sup.,	82.50
	Board of Water Commissioners,	1547	Service pipe,	10.15
	A. T. Boddington,	1548	Seeds,	4.00
	Cadwell & Jones,	1549	Tools & supplies,	7.58
	Clark & Smith,	1550	Office supplies,	3.85
	L. C. Daniels Grain Co.,	1551	Feed,	38.13
	J. C. Dexter Photo Co.,	1552	Refectory sup.,	9.75
	Downing & Perkins,	1553	Cartage & freig't,	12.29
	Henry A. Dreer,	1554	Plants,	7.00
	Elmer Automobile Co.,	1555	Auto supplies,	5.00
	Empire Steam Laundry,	1556	Refectory exp.,	7.82
	L. L. Ensworth & Son,	1557	Tools & supplies,	35.32
	Fairbanks Company,	1558	Tools,	4.76
	R. & J. Farquhar & Co.,	1559	Seeds,	1.25
	Ford Auto Repair Co.,	1560	Auto supplies,	2.50
	G. Fox & Co.,	1561	Refectory sup.,	.98
	Hartford Apron & Towel Supply Co.,	1562	Golf expense,	13.34
	Hartford Cement Co.,	1563	Cement & lime,	10.35
	Hartford City Gas Light Co.,	1564	Gas,	11.61
	Hartford Electric Light Co.,	1565	Electricity,	200.46
	Hartford Market Co.,	1566	Refectory sup.,	17.50
	Hartford Paving & Construction Co.,	1567	Gasoline house,	200.00
	Hooker & Penrose,	1568	Insurance,	10.00
	Huntington Bakery,	1569	Stale bread,	2.25
	Loose-Wiles Biscuit Co.,	1570	Refectory sup.,	12.15
	P. R. Martin,	1571	Horse shoeing,	5.00
	W. C. Mason & Co.,	1572	Fuel,	444.96
	Wm. J. McDonough,	1573	Office supplies,	2.30
	B. L. McGurk,	1574	Repair wagon,	9.25
	P. Meluzzi,	1575	Ice,	5.40

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	G. A. Parker,	1576	Sal. & petty cash,	169.37
	Joseph Merritt,	1577	Blue prints,	.22
	Henry Michell & Co.,	1578	Seeds,	50.65
	A. Mugford, Inc.,	1579	Half-tones,	21.95
	Noll Bros. & Smith,	1580	Swings,	480.90
	C. A. Pease & Co.,	1581	Feed,	19.15
	Perry Motor Supply Co.,	1582	Auto supplies,	26.30
	Phoenix Mutual Life Ins. Co.,	1583	Rental,	83.33
	Plimpton Mfg. Co.,	1584	Office supplies,	18.18
	Post & Lester Co.,	1585	Golf expense,	5.65
	Remington Typewriter Co.,	1586	Office supplies,	2.25
	M. Rosenthal,	1587	Office supplies,	12.00
	F. F. Schirm & Sons,	1588	Horse shoeing,	1.50
	Silver Brothers,	1589	Refectory sup.,	86.73
	Sisson Drug Co.,	1590	Supplies,	28.19
	Standard Oil Co. of New York,	1591	Gasoline,	44.80
	Sterling Machine Co.,	1592	Timer repaired,	2.41
	Edwin Taylor Lumber Co.,	1593	Lumber,	167.25
	Tracy, Robinson & Williams Co.,	1594	Tools & supplies,	119.33
	Thomas Trant,	1595	Pump leathers,	.90
	Trout Brook Ice & Feed Co.,	1596	Refectory sup.,	32.82
	E. Tucker Sons Co.,	1597	Golf supplies,	13.00
	Wakefield, Morley Co.,	1598	Insurance,	5.68
	Weeks & Woods,	1599	Refectory sup.,	19.00
	F. G. Whitmore,	1600	Salary,	108.33
11	Park Pay Roll,	1601	No. 24,	1147.41
18	Park Pay Roll,	1602	No. 25,	1650.45
20	Rice & Green Electric Co.,	1603	Wiring & fixtures,	360.25
25	Park Pay Roll,	1604	No. 26,	1790.92
	A. S. Freeburg,	1605	Contr't—Cem. w'k,	3148.80
Oct. 2	Park Pay Roll,	1606	No. 27,	1815.32
8	A. W. Anderson Estate,	1607	Horse shoeing,	6.00
	Andrews & Peck Co.,	1608	Glass,	23.85
	Aphine Manufacturing Co.,	1609	Insecticide,	1.50
	Edward Balf Co.,	1610	Ashes & sand,	39.80
	J. L. Besse,	1611	Refectory sup.,	128.00
	Billings Sidewalk & Coal Co.,	1612	Cement,	45.50
	C. H. Brazel & Co.,	1613	Repair harness,	3.00
	R. D. & C. O. Britton Co.,	1614	Auto hire,	51.00
	Cadwell & Jones,	1615	Tools & supplies,	84.93

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Coldwell Lawn Mower Co.,	1616	Motor mower,	41.06
	L. C. Daniels Grain Co.,	1617	Feed,	39.48
	Empire Steam Laundry,	1618	Refectory exp.,	4.50
	L. L. Ensworth & Son,	1619	Supplies,	1.28
	Hartford Bottling Works,	1620	Refectory sup.,	5.60
	Hartford City Gas Light Co.,	1621	Gas,	19.89
	Hartford Electric Light Co.,	1622	Electricity,	210.94
	Hartford Market Co.,	1623	Refectory sup.,	4.83
	Hotel Heublein,	1624	Entertain. Sup'ts.,	59.50
	C. E. Hubbard,	1625	Pipes,	131.20
	Kendall Refining Co.,	1626	Auto oil,	9.88
	Loose-Wiles Biscuit Co.,	1627	Refectory sup.,	9.00
	B. L. McGurk,	1628	Auto repair,	35.50
	P. Meluzzi,	1629	Ice,	.90
	R. G. Miller,	1630	Manure,	52.50
	Mugford Printing Co.,	1631	Half-tone portra't,	3.50
	National Cash Register Co.,	1632	Refectory sup.,	.70
	G. A. Parker,	1633	Sal. & petty cash,	172.97
	Patterson, Wylde & Co.,	1634	Insecticide,	65.00
	C. A. Pease & Co.,	1635	Feed,	39.10
	Phoenix Mutual Life Ins. Co.,	1636	Rental,	83.33
	Post & Lester Co.,	1637	Auto supplies,	35.08
	F. F. Schirm & Sons,	1638	Horse shoeing,	4.50
	Silver Brothers,	1639	Refectory sup.,	26.66
	Sisson Drug Co.,	1640	Supplies,	18.08
	Standard Oil Co. of New York,	1641	Gasoline,	54.40
	Edwin Taylor Lumber Co.,	1642	Lumber,	157.40
	A. J. Tefft,	1643	Photographs,	21.00
	Tracy, Robinson & Williams Co.,	1644	Tools & supplies,	37.17
	Thomas Trant,	1645	Supplies,	8.54
	Trout Brook Ice & Feed Co.,	1646	Refectory sup.,	19.10
	W. W. Walker & Co.,	1647	Refectory sup.,	23.11
	Weeks & Woods,	1648	Refectory sup.,	6.20
	West Disinfectant Co.,	1649	Golf supplies,	12.50
	F. G. Whitmore,	1650	Salary,	108.33
	Wise, Smith & Co.,	1651	Supplies,	3.03
9	Park Pay Roll,	1652	No. 28,	1800.31
16	Park Pay Roll,	1653	No. 29,	1944.48
23	Park Pay Roll,	1654	No. 30,	1993.41

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
26	Park Pay Roll,	1655	No. 31 (on acc't.),	150.00
30	Park Pay Roll,	1656	No 31 (bal.)	1160.49
Nov. 1	Park Pay Roll,	1657	No. 32 (on acc't.)	48.00
6	Park Pay Roll,	1658	No. 32 (balance)	1762.52
	A. W. Anderson Estate,	1659	Horse-shoeing,	3.00
	Edward Balf Co.,	1660	Sand and stone,	52.50
	Joseph L. Besse,	1661	Refectory sup.,	36.50
	Billings Sidewalk & Coal Co.,	1662	Cement,	53.05
	C. H. Brazel & Co.,	1663	Repair harness,	1.90
	Cadwell & Jones,	1664	Tools and sup.,	86.23
	City Printing Co.,	1665	Annual reports,	169.18
	L. C. Daniels Grain Co.,	1666	Feed,	29.78
	Downing & Perkins,	1667	Golf expense,	5.30
	Henry A. Dreer,	1668	Plants,	15.75
	Frank D. Ellison,	1669	Plumbing,	19.11
	Empire Steam Laundry,	1670	Refectory expense	2.02
	L. L. Ensworth & Son,	1671	Playground sup.,	4.21
	Otto Epstein,	1672	Plumbing,	35.35
	Gustave Fischer & Co.,	1673	Office supplies,	.70
	Ford Auto Repair Shop,	1674	Repair auto,	7.40
	G. Fox & Co.,	1675	Supplies,	.27
	Hartford Bottling Works,	1676	Refectory sup.,	2.60
	Hartford Cement Co.,	1677	Sewer pipes,	432.83
	Hartford City Gas Light Co.,	1678	Gas,	14.94
	Hartford Electric Light Co.,	1679	Electricity,	184.77
	Hartford Foundry Corp.,	1680	Manhole frames,	108.65
	C. E. Hubbard,	1681	Supplies,	12.18
	E. M. Keenan,	1682	Crushed stone,	2.30
	P. R. Martin,	1683	Horse-shoeing,	3.50
	W. C. Mason & Co.,	1684	Fuel,	32.35
	Wm. J. McDonough,	1685	Office supplies,	4.80
	G. A. Parker,	1686	Salary,	151.72
	C. A. Pease & Co.,	1687	Feed,	26.22
	Phoenix Mutual Life Ins. Co.,	1688	Rental,	83.33
	Plimpton Mfg. Co.	1689	Office supplies,	35.90
	Post & Lester Co.,	1690	Tools,	5.03
	Robert D. Pryde,	1691	Golf service,	184.00
	Rice & Green Electric Co.,	1692	Wiring,	22.00
	F. F. Schirm & Sons,	1693	Horse-shoeing,	1.50
	Sisson Drug Co.,	1694	Supplies,	9.24
	Southern N. E. Telephone Co.,	1695	Telephone service,	72.35

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Standard Oil Co. of New York,	1696	Gasoline,	19.20
	Edwin Taylor Lumber Co.,	1697	Lumber,	243.93
	G. W. Todd & Co.,	1698	Office supplies,	25.00
	Tracy, Robinson & Williams Co.,	1699	Tools,	8.13
	Thomas Trant,	1700	Supplies,	33.23
	Trout Brook Ice & Feed Co.,	1701	Refectory sup.,	10.75
	Wadsworth, Howland & Co.,	1702	Paint,	2.05
	Board of Water Commissioners,	1703	Water,	106.92
	F. G. Whitmore,	1704	Salary,	108.33
13	Park Pay Roll,	1705	No. 33,	1507.57
14	Park Pay Roll,	1706	No. 34 (on acct.),	50.00
20	Park Pay Roll,	1707	No. 34 (balance),	1104.67
21	Collector of Customs,	1708	Duty on roses,	6.74
	Adams Express Co.,	1709	Express on roses,	5.20
27	Park Pay Roll,	1710	No. 35,	1138.12
Dec. 2	Park Pay Roll,	1711	No. 36 (on acct.),	150.00
3	A. W. Anderson Estate,	1712	Horse-shoeing,	3.00
	W. E. Baker & Son,	1713	Insurance,	10.00
	Billings Sidewalk & Coal Co.,	1714	Lime and cement,	2.13
	R. D. & C. O. Britton Co.,	1715	Taxi service,	16.50
	Brown, Thomson & Co.,	1716	Burlap,	20.40
	Cadwell & Jones,	1717	Supplies,	6.37
	Fidelity Trust Co., (draft to B. R. Cant & Sons, England),	1718	Roses,	31.51
	Downing & Perkins,	1719	Cartage & freight,	21.18
	Frank D. Ellison,	1720	Plumbing,	25.54
	Elmer Automobile Co.,	1721	Auto supplies,	.40
	Empire Steam Laundry,	1722	Refectory exp.,	.20
	Ford Auto Repair Shop,	1723	Auto repair,	25.32
	Fred J. Godbout,	1724	Greenhouse rep'rs,	8.75
	H. H. Hamlin, M.D.V.,	1725	Veterinary serv.,	3.00
	Hartford Apron & Towel Supply Co.,	1726	Golf expense,	7.68
	Hartford Cement Co.,	1727	Sewer pipe,	114.60
	Hartford City Gas Light Co.,	1728	Gas,	12.06
	Hartford Electric Light Co.,	1729	Electricity,	152.46

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Am
	Malichi J. Hogan,	1730	Plumbing,	
	Lord & Burnham,	1731	Greenhouse sup.,	
	P. R. Martin,	1732	Wagon,	
	B. L. McGurk,	1733	Repair wagon,	
	Olds & Whipple,	1734	Tools & supplies,	
	G. A. Parker,	1735	Sal'y & petty cash	1
	Plimpton Mfg. Co.	1736	Office supplies,	
	Phoenix Mutual Life Ins. Co.,	1737	Rental,	
	Remington Typewriter Co.,	1738	Office supplies,	
	F. F. Schirm & Sons,	1739	Horse-shoeing,	
	Sisson Drug Co.,	1740	Supplies,	
	Southern N. E. Telephone Co.,	1741	Telephone service,	
	Edwin Taylor Lumber Co.,	1742	Lumber,	52
	Tracy, Robinson & Williams,	1743	Tools & supplies,	2
	F. G. Whitmore,	1744	Salary,	10
	Wise, Smith & Co.,	1745	Supplies,	
4	Park Pay Roll,	1746	No. 36 (balance),	71
11	Park Pay Roll,	1747	No. 37,	52
18	Park Pay Roll,	1748	No. 38,	51
24	Park Pay Roll,	1749	No. 39,	48
30	M. H. Foundry & Mfg. Co.,	1750	Fountain fixtures,	27
31	Park Pay Roll,	1751	No. 40,	474
1913				
Jan. 7	A. W. Anderson Estate,	1752	Horse-shoeing,	3
	Andrews & Peck Co.,	1753	Window glass,	23
	Armour & Co.,	1754	Refectory sup.,	2
	W. E. Baker & Son,	1755	Insurance prem.,	135
	Edward Balf Co.,	1756	Sand,	11
	Beardsley & Beardsley,	1757	Insurance prem.,	75
	A. R. Blumenthal,	1758	Refectory sup.,	
	Board of Water Commissioners,	1759	Water pipe rep'rs,	5.
	C. H. Brazel & Co.,	1760	Stable blankets,	7.
	Bryant & Chapman,	1761	Refectory sup.,	74.
	Cadwell & Jones,	1762	Lamps and sup.,	6.
	Conn. Tire & Repair Co.,	1763	Tires,	28.
	L. C. Daniels Grain Co.,	1764	Feed,	26.
	Downing & Perkins,	1765	Cartage,	
	Elmer Automobile Co.,	1766	Door lock,	
	Empire Steam Laundry,	1767	Refectory exp.,	
	L. L. Ensworth & Son,	1768	Supplies,	2.
	Hartford Cement Co.,	1769	Sewer pipe,	18.

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Hartford City Gas Light Co.,	1770	Gas.	11.19
	Hartford Electric Light Co.,	1771	Electricity.	133.04
	Hartford Printing Co.,	1772	Directories.	12.00
	Hooker & Penrose,	1773	Insurance prem.,	75.00
	C. E. Hubbard.	1774	Supplies.	12.00
	Geo. F. Humphrey.	1775	Rye straw,	13.75
	Lord & Burnham Co.,	1776	Greenhouse sup.,	14.04
	W. C. Mason & Co.,	1777	Fuel.	45.29
	McManus & Holcombe.	1778	Premium on bond.	8.75
	Henry F. Michell Co.,	1779	Plants.	2.90
	G. A. Parker.	1780	Sal'y & petty cash.	138.39
	C. A. Pease & Co.,	1781	Feed.	26.90
	Phoenix Mutual Life Ins. Co.,	1782	Rental.	83.33
	A. Pindar Corp.,	1783	Office supplies.	6.00
	Plimpton Mfg. Co.	1784	Office supplies.	28.60
	F. F. Schirm & Sons,	1785	Horse-shoeing.	6.85
	Silver Brothers,	1786	Refectory sup..	1.15
	W. G. Simmons Corp.,	1787	Refectory sup.,	2.40
	Sisson Drug Co.,	1788	Tools & supplies.	46.28
	Henry F. Smith,	1789	Recording deed.	.50
	Standard Oil Co. of New York.	1790	Gasoline.	8.00
	Edwin Taylor Lumber Co.,	1791	Lumber.	46.51
	A. J. Tefft.	1792	Office supplies.	3.00
	Tracy, Robinson & Williams,	1793	Tools & supplies.	13.88
	F. G. Whitmore.	1794	Salary.	108.33
	Wise, Smith & Co.,	1795	Refectory sup..	1.41
	Wood & Selick.	1796	Refectory sup..	6.30
8	Park Pay Roll.	1797	No. 41.	437.10
15	Park Pay Roll.	1798	No. 42	440.95
22	Park Pay Roll.	1799	No. 43.	473.82
27	Board of Water Commissioners.	1800	Water.	325.52
29	Park Pay Roll.	1801	No. 44.	448.18
Feb. 4	A. W. Anderson Estate	1802	Horse-shoeing.	12.35
	Edward Balf Co.,	1803	Sand.	20.00
	Clapp & Treat.	1804	Supplies.	.45
	B. Cohen.	1805	Oil.	.85
	Downing & Perkins.	1806	Cartage & freight.	2.43
	Henry A. Dreer.	1807	Seeds.	2.94
	Hartford City Gas Light Co..	1808	Gas.	5.67

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Hartford Electric Light Co.,	1809	Electricity,	106.53
	Hartford Market Co.,	1810	Refectory sup.,	5.29
	W. C. Mason Coal Co.,	1811	Fuel,	38.82
	Joseph Merritt,	1812	Office supplies,	1.98
	R. G. Miller,	1813	Refectory sup.,	10.44
	Olds & Whipple,	1814	Supplies,	4.31
	G. A. Parker,	1815	Sal'y & petty cash,	204.85
	C. A. Pease & Co.,	1816	Feed,	17.84
	Phoenix Mutual Life Ins. Co.,	1817	Rental,	83.33
	Plimpton Mfg. Co.	1818	Office supplies,	11.25
	Post & Lester Co.,	1819	Auto supplies,	5.00
	Remington Typewriter Co.,	1820	Office supplies,	2.25
	Rice & Green Electric Co.,	1821	Electrical sup.,	9.50
	Albert A. Sawyer,	1822	Seeds,	3.00
	Silver Brothers,	1823	Refectory sup.,	21.00
	Sisson Drug Co.,	1824	Paints & brushes,	12.09
	Southern N. E. Telephone Co.,	1825	Telephone service,	70.75
	Standard Oil Co. of New York,	1826	Gasoline,	24.90
	Tracy, Robinson & Williams Co.,	1827	Tools & supplies,	8.84
	Wadsworth, Howland & Co.,	1828	Supplies,	8.96
	F. G. Whitmore,	1829	Salary,	108.33
5	Park Pay Roll,	1830	No. 45,	450.46
11	Park Pay Roll,	1831	No. 46,	550.41
19	Park Pay Roll,	1832	No. 47,	576.96
26	Park Pay Roll,	1833	No. 48,	455.03
Mar. 4	A. W. Anderson Estate,	1834	Horse-shoeing,	2.45
	Armour & Co.,	1835	Refectory sup.,	12.84
	Board of Water Commissioners,	1836	Pipes,	88.16
	W. Atlee Burpee,	1837	Seeds,	1.20
	Cadwell & Jones,	1838	Skating supplies,	8.75
	Central Iron Works,	1839	Clay gatherer,	195.00
	L. C. Daniels Grain Co.,	1840	Feed,	23.97
	Downing & Perkins,	1841	Cartage,	7.50
	Henry A. Dreer,	1842	Seeds,	7.45
	L. L. Ensworth & Son,	1843	Tools & supplies,	12.01
	R. J. Farquhar & Co.,	1844	Seeds,	5.00
	Ford Auto Repair Co.,	1845	Auto supplies,	2.50
	Fidelity Trust Co., draft to J. J. Grulleman & Son	1846	Bulbs,	420.79

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Hartford City Gas Light Co.,	1847	Gas,	2.61
	Hartford Electric Light Co.,	1848	Electricity,	119.00
	Hartford Times,	1849	Advertisement,	.27
	C. E. Hubbard,	1850	Pipes,	89.00
	W. C. Mason & Co.,	1851	Fuel,	19.41
	Wm. J. McDonough,	1852	Office supplies,	5.00
	Joseph Merritt,	1853	Office supplies,	1.37
	Henry F. Michell Co.,	1854	Seeds,	23.60
	G. A. Parker,	1855	Sal'y & petty cash,	204.00
	Phoenix Mutual Life Ins. Co.,	1856	Rental,	83.33
	Pitner Gasoline Lighting Co.,	1857	Mantles & globes,	39.00
	Plimpton Mfg. Co.	1858	Office supplies,	19.01
	Remington Typewriter Co.	1859	Office supplies,	.75
	Rice & Green Electric Co.,	1860	Curling expense,	8.46
	Silver Brothers,	1861	Refectory sup.,	21.25
	Sisson Drug Co.,	1862	Supplies,	10.17
	Southern N. E. Telephone Co.,	1863	Telephone service,	1.00
	Edwin Taylor Lumber Co.,	1864	Lumber,	68.25
	Tracy, Robinson & Williams Co.,	1865	Tools & supplies,	57.81
	E. Tucker Sons Co.,	1866	Skating supplies,	.70
	Wadsworth, Howland & Co.,	1867	Paint & brushes,	21.31
	F. G. Whitmore,	1868	Salary,	108.33
	Clifford A. Wibirt,	1869	Gardening labels,	16.00
	Wise, Smith & Co.,	1870	Refectory sup.,	1.90
5	Park Pay Roll,	1871	No. 49,	471.32
12	Park Pay Roll,	1872	No. 50,	435.79
19	Park Pay Roll,	1873	No. 51,	539.36
26	Park Pay Roll,	1874	No. 52,	731.93
29	Allen, Russell & Allen,	1875	Insurance,	90.00
	A. W. Anderson Estate,	1876	Horse-shoeing,	1.75
	Russell F. Barker,	1877	Sketches,	50.00
	Joseph L. Besse,	1878	Refectory sup.,	4.00
	Billings Sidewalk & Coal Co.,	1879	Tile,	3.58
	Bishop Ladder Co.,	1880	Ladders,	11.25
	A. T. Boddington,	1881	Roses,	5.50
	Bonner-Preston Co.,	1882	Supplies,	52.52
	C. H. Brazel & Co.,	1883	Harness,	43.25

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EXPENDITURES — *Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Burroughs Adding Machine Co.,	1884	Office supplies,	.75
	Cadwell & Jones,	1885	Tools & supplies,	10.38
	J. H. & W. E. Cone,	1886	Tools,	3.50
	H. Cowlishaw,	1887	Keys,	.75
	L. C. Daniels Grain Co.,	1888	Feed,	27.37
	J. C. Dexter Photo Co.,	1889	Office supplies,	19.40
	Downing & Perkins,	1890	Freight,	5.08
	Henry A. Dreer,	1891	Bulbs,	23.50
	L. L. Ensworth & Son,	1892	Tools,	15.22
	Gustave Fischer & Co.,	1893	Gardening sup.,	1.75
	Hartford City Gas Light Co.,	1894	Gas,	5.13
	Hartford Electric Light Co.,	1895	Electricity,	21.90
	Hartford Market Co.,	1896	Refectory sup.,	10.20
	Malichi J. Hogan,	1897	Plumbing,	8.20
	E. Holstein Rubber Co.,	1898	Supplies,	16.20
	Mrs. Frank P. Hoye,	1899	Manure,	16.06
	P. R. Martin,	1900	Horse-shoeing,	2.25
	W. C. Mason & Co.,	1901	Fuel,	130.90
	Wm. J. McDonough,	1902	Office supplies,	4.75
	B. L. McGurk,	1903	Tools,	5.00
	Henry F. Michell Co.,	1904	Seeds,	.70
	E. U. Mumford,	1905	Refectory sup.,	1.00
	Nims, Whitney & Co.,	1906	Auto repair,	4.00
	Olds & Whipple,	1907	Supplies,	.30
	G. A. Parker,	1908	Sal'y & petty cash,	217.80
	C. A. Pease & Co.,	1909	Feed,	11.78
	Phoenix Mutual Life Ins. Co.,	1910	Rental,	83.33
	Plimpton Mfg. Co.,	1911	Office supplies,	21.65
	Post & Lester Co.,	1912	Auto repair,	70.07
	G. S. Ramsburg,	1913	Plants,	2.00
	Sisson Drug Co.,	1914	Paints,	5.25
	Standard Oil Co. of New York,	1915	Gasoline,	9.00
	Edwin Taylor Lumber Co.,	1916	Lumber,	138.84
	A. J. Tefft,	1917	Office supplies,	2.29
	Tracy, Robinson & Williams,	1918	Tools & supplies,	57.10
	Thomas Trant,	1919	Tools,	5.47
	R. Vincent, Jr., & Sons Co.,	1920	Plants,	12.15
	Wadsworth, Howland & Co.,	1921	Paint,	11.40

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	W. W. Walker & Co.,	1922	Refectory sup.,	3.70
	F. G. Whitmore,	1923	Salary,	108.33
	Wise, Smith & Co.,	1924	Refectory sup.,	.90
Apr. 2	Park Pay Roll,	1925	No. 53,	845.41
			Total expenditures	$90,358.07

HARTFORD, CONN., May 19, 1913.

I hereby certify that I have examined the books and vouchers of F. G. Whitmore, Secretary of Board of Park Commissioners, and find them correct.

CHAS. H. ROBINS, *Controller.*

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Financial Statement for Year Ending March 31, 1913

TAX FUND ACCOUNT.

1912.			
Apr. 1.	Balance on hand in City Treasury (Gen'l Maint.)	$ 17 56	
	Balances in Bank—Gen'l Maintenance	1,294 63	
	Colt—Shelter	8 21	
	Skating pond	151 72	
	Flag walk	16 54	
	Plank walk	39 08	
	Elizabeth—Alterations, sheepfold	4 54	
	Pope—Girls' gym.	308 74	
	Plank walk	21 40	
	Rocky Ridge improvements	788 23	
	Appropriation—General Maintenance	58,021 00	
	Colt—Little Folks' Playground	1,200 00	
	Wading pool	415 00	
	Flag walk	900 00	
	Pope—Paths in grove	3,000 00	
	Cement walk	3,420 00	
	Outdoor gymnasium apparatus	300 00	
	Girls' gymnasium apparatus	300 00	
	Pavilion furniture and lockers	480 00	
	Riverside—Speedway extension	264 00	
	Rocky Ridge Improvements	1,000 00	
	Tunnel Park—Fence	225 00	
	Superintendent's Auto	850 00	
	Additional seats and swings	1,625 00	
	Cemeteries, Maintenance and Improvements	6,000 00	
June 10.	Appropriation—Development of playgrounds for Juvenile Commission	2,500 00	

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July	2.	Interest	274 86	
	15.	Appropriation—Grading about 45 acres in Colt Park	10,000 00	
Oct.	2.	Interest	161 00	
Nov.	29.	Gift from Mrs. Elizabeth H. Colt Estate for erection of fence to complete Memorial	700 00	
Dec.	31.	Interest	91 88	
1913.				
Mar.	31.	Receipts from Elizabeth Park Refectory.	2,932 20	
		Incidental receipts from rentals, golf, etc., during year	3,650 11	
				$100,960 70
		Expenditures during year on maintenance and improvements	95,725 01	
		Balance on hand in City Treasury	814 43	
		Balance on hand in Bank	4,421 26	
				100,960 70

MEMORANDUM.

Unexpended balances in City Treasury, per appropriations:

	General Maintenance	$516 23
	Tunnel Park—Fence	225 00
	Superintendent's Auto	73 20
Mar. 31.	Unexpended balances on hand in Bank, per appropriations:	
	General Maintenance	$1,099 16
	Colt—Little Folks' Playground	109 70
	Grading	785 30
	Road Improvement	321 57
	Pope—Pavilion furniture and lockers	192 17
	Girls' Gymnasium	608 11
	Outdoor Gymnasium	218 41
	Rocky Ridge Improvements	185 02
	Playgrounds	201 82
	Colt—Gift for completion of Colt Memorial	700 00

NOTE:—The following balances for improvement work in Colt Park were transferred to Improvement of Park Road in Colt Park by authority of Board of Finance, March 11th, 1913:

	Flag walk	$16 54
	Plank walk	36 68
	Wading pool	336 04
	Skating pond	151 70
	Total	$540 96

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ELIZABETH PARK FUND ACCOUNT.

1912.				
Apr.	1.	Balance on hand in City Treasury	$1,124 63	
		Balance on hand in Bank	83 06	
July	2.	Interest	11 20	
Oct.	2.	Interest	10 05	
1913.				
Jan.		Dividend, Hartford Exchange	10 00	
				1,238 94
Mar.	31.	Expenditures during year for special improvements chargeable to this fund	$633 06	
		Balance on hand in City Treasury	605 88	
				1,238 94

BOND FUND ACCOUNT.

1912.				
Apr.	1.	Balance on hand in City Treasury	$3,678 85	
July	2.	Interest	36 75	
Oct.	2.	Interest	18 07	
1913.				
Jan.	1.	Interest	18 39	
				$3,752 06
		There have been no expenditures from this fund during the year, therefore		
		Balance on hand in City Treasury		$3,752 06

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Report of the Superintendent

CONSTRUCTION WORK OR UNUSUAL EXPENDITURES DURING

FISCAL YEAR ENDING APRIL 1, 1913

GOODWIN PARK.

Golf Links, no Special Appropriation.
Expenditures $1,347.66

The second nine holes were put in fairly good condition, and were used during the season.

COLT PARK.

Little Folk's Playground, Appropriation $1,200.00.
Expenditures 1,090.30

The old deer paddock was graded, and the fence changed, to enclose the little folk's playground under the horse chestnut tree.

Flag Walk, Appropriation $900.00
Expenditures 900.00

This was the completion of the flag walk from where it ended last season near the tennis courts to Wethersfield Avenue. The walk is stone flag, four feet wide, and one and one-half inches thick, laid one-half inch between joints on a cinder or ash foundation.

Grading, Appropriation $10,000.00
Expenditures 9,214.70

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This was the grading, cleaning and deepening of the old duck pond, so called, the building of a dam and over-flow near Wawarme Avenue, and the grading so as to produce a skating pond of sixteen acres when the water stands at six feet at the dam. Nowhere in the pond is the water over four feet deep. It gave eight new diamonds, an earth road entirely around the ball field, and fields for football and other games.

ELIZABETH PARK.

Curling Rink, Appropriation	$619.19
Expenditures	619.19

At the northwest corner of the pond at Elizabeth Park in line with the ditch leading to Asylum Avenue a curling pond full size was constructed. A temporary house for the curlers was erected on the bank with accomodations for their curling stones and heat and light. Three electric lights were strung over the pond to enable them to play during the evening.

PLAYGROUNDS.

Appropriation	$2,500.00
Expenditures	2,298.18

The playgrounds established outside of the parks for which this money was expended, constituted:

1. Near the foot of State Street.
2. East of Charles Street.
3. Brown School yard on Talcott Street.
4. Pequot Playground.
5. Pallotti Playground.
6. Pleasant Court.
7. Ely Playground.
8. Liberty Street.

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POPE PARK.

Cement Walk, Appropriation $3,420.00
Expenditures 3,425.52

A cement walk eight feet wide was laid along the park drive between Park Street opposite the Columbia Motor Car Co. and Park Terrace opposite Hillside Avenue.

Paths in Grove, Appropriation $3,000.00
Expenditures 3,103.55

The gravel paths in the grove between the park river and Park Terrace south of Capitol Avenue were re-graded, raised, re-graveled and new paths added.

Approaches to Bridge, No Special Appropriation.
Paid by Bd. of Street Com. $500.00
Expenditures 1,000.00

Last year a bridge having been constructed over Park River opposite Riverside Street, it became necessary to make a suitable approach on the Pope Park side, and to construct a path with steps up the steep embankment to Mortson Street.

RIVERSIDE PARK.

Speedway, Appropriation $264.00
Expenditures 1,036.90

This work was done at the request of the Road Drivers' Club who desired to extend the speedway from one-quarter of a mile to one-third.

As originally planned it was proposed to extend this speedway nearly at the present surface grade, but when the work came to be done, it seemed best to reduce the grade to a regular speedway grade which added materially to the cost.

ROCKY RIDGE PARK.

Improvement, Appropriation $1,788.23
Expenditures 1,603.21

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The total expenditure necessary to make a thorough going park of twenty-eight acres which constitutes this area will be considerable. Improvements are being made slowly year by year. The work during the last year was the grading of the triangle between Fairfield Avenue and New Britain Avenue, and of the triangle between Zion Street and New Britain Avenue, the cutting back of the heavy embankment on the south side of New Britain Avenue. Each of these areas was surfaced manured and seeded.

SEATS AND SWINGS.

Appropriation	$1,625.00
Expenditures	1,628.22

The need of additional seats in the parks is very great, and grows much faster than the number of seats that are added. There are needed at the present time seating accomodations for fully 10,000 pople at once. This may seem large, but anyone who sees the parks daily will realize the necessity. The increased attendance of the parks is at the rate of from forty to fifty per cent. a year. The increased seating capacity of the parks is only about one-half of that rate.

ANCIENT CEMETERY.

A large granite boulder as a memorial for the Governor's Foot Guard, First Company, has been placed in this Cemetery in a prominent position near Gold Street.

REFECTORY.

Income	$2,903.75
Expenditures	3,621.19

The refectory itself just about paid its way, the large expenditures being caused by the installation of a candy kitchen and ice cream plant before it was decided that there were to be no sales on Sunday. Otherwise the expenditures for that installation would not have been much.

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BUSHNELL PARK.

The filling necessary for the widening of Jewell and Wells Streets has been largely done without expense to the city by allowing contractors to use it as waste bank for their surplus material. The river itself has been cleaned and its banks rip-rapped under the direction and at the expense of the Board of Street Commissioners.

GENERAL MAINTENANCE.

The floral display has steadily increased in quantity and quality each year and the past year has been no exception. The general maintenance of the parks has not, however, kept up with their increased use and their need for renovation. Especially is this true of the lawns and tree life. The increased appropriation that was made for maintenance was all taken up in the increase of the pay of the laborers and teams and the increased cost of material used, so that in fact there was a decrease amount of labor available for maintenance than previous years.

RECREATION.

The city appropriated $2500 for outside recreation, and while some of the details might be classed as crude and open to adverse criticism, yet the results lead me to believe they have solved some of the fundamental principles underlying the recreation problems of city life. In that respect the playgrounds were successful. A man who works near a window in one of the high buildings overlooking the territory served by the playgrounds said that the degrading and unmentionable things that took place in back yards before the playgrounds were established came to an end, for the children were drawn out of the back yard into the playground. The policeman on the beat said that the question of what to do with the children in the streets, and the danger from their playing there, was practically ended, for the

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children leave the streets for the playground. A mother who seemed representative of others said that she felt safe about her children, for she knew where they were, out of the streets, away from the evil of the back yards and in the playgrounds. Therefore, from the mother's and policeman's viewpoint they were successful, and for the evil of the back yards they became an efficient remedy.

It is customary in discussing playgrounds or play opportunities to consider them as a center of a circle of influences of varying diameters, such as, a playground for small children has a radius of influence of one thousand feet; one for larger children of two thousand feet; and a baseball field of a mile, but it seems to me a clearer conception of their influence can be gained by considering a city as a great malstrom of human life, with placid even currents in some parts, and strong rapids in others, and innumerable eddies and whirl-pools caused by the conflicting and contrary directions of the different currents. In this malstrom child life and weaklings are too often caught and held helpless in the eddies and whirl-pools. The extent of the influences of the playground depends upon the extent and vigor of the eddy it serves and cannot be measured by any geometrical form, for public playgrounds are needed most in the eddies of city life and not so much for the homes of those located in the even placid stream of life.

I believe in "free play," and consider "directed play" a contradiction of terms. The word "play" in the latter is used with an abnormal meaning. I know I stand alone in my advocacy of "free play", therefore, I have no right to discuss it in a public report. I refer to it only because it shows my viewpoint of recreation, and perhaps may influence my conclusion, even though I intend to make no statements which are not equally true with "directed play."

Recreation is that part of leisure time which is used by the individual or the community in nature's own way; for development between the ages of birth and fourteen; for construction

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between fourteen and twenty-one; for formation between twenty-one and twenty-eight; and for the maintenance and renewal of the elasticity of life afterwards, which monotonous work or business tends to destroy.

If I am right in my definition, then recreation is a matter which concerns all ages and conditions and not limited to children, as it seems to be considered by many.

Recreation in cities is a new problem. Heretofore, men and women were made under country influences, and afterwards lived in the city. The reverse of this fact is fast coming true. Up to the present time the city has not been able to produce fully developed men and women from boys and girls born in the city of parents who were born and lived continuously in the city. Rare indeed has been the exception to this rule. The time must come, and I believe soon will come, when cities will produce stronger and better men and women than the country ever did. When it does so, the recreation problem of cities will have been solved, for recreation is the road to this end. Recreation then is a constructive force of the first magnitude in city building equal to and co-ordinate with the other two great constructive forces, work and education.

The city's relations to these three forces differ widely. With work, the city sees to it that each man receives the reward for his efforts that is agreed upon, but leaves each, either as an individual or in combination, to make his own agreements.

With education, the city sees to it that the young shall be properly trained and prepared for life. The city provides the means and compels attendance. The child has to go whether he will or no.

With recreation, the city only provides the opportunity, and leaves it at the option of the individual, or the group, whether they use it or not.

With these preliminary explanations, I will now state what seems to me some of the more important laws governing recreation as related to cities.

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1. If the opportunities for recreation are provided to meet the needs of the people, they will be used up to the full extent of the people's need.

2. The variety and amount of recreation facilities needed is quite constant with each group of people living under similar conditions, and varies but little in groups of ten thousand.

3. The recreation desired by any condition or class of people will be supplementary and complimentary to their laily work and education, and while varying much as to groups, is quite constant within each group.

4. If play facilities are provided too abundantly or not sufficient to meet the people's needs, the group as a whole is weakened. There is a proportion or balance between their needs and the means of satisfying them that will give the greatest strength and the best results.

5. If any particular kind of recreation is provided in too great abundance, it will become stale and little used. If not enough, it will cause discord.

6. As a machine out of balance causes friction, unnecessary wear and cost to run, and in the end may destroy itself, so play facilities out of balance cause trouble, are costly, and the facilities provided are often destroyed. Generally, when there is discord or destruction in recreation or park work, it is because they are out of balance, and the cause and remedy lie with the Superintendent rather than with those in attendance.

7. Every muscle, organ, function or attribute of the human being needs relaxation and recreation, and for each of these needs there are conditions or appliances to satisfy them. It is for the city to know and provide the opportunity.

8. In the country each home provides its own water supply, sanitary conditions and recreation. Whether good or bad the individual was responsible, but in the city the individual cannot

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provide those things separately. It is a community interest, and the community as a whole is responsible whether they be good or bad, and it is responsible for recreation the same as it is for water, sewerage, and the streets.

While there are many and varied local difficulties and perplexities in recreation work, I have found none which did not seem to rest upon one or more of these general principles.

I assume it is within the province of the Park Department as custodian of the park areas and therefore of much of the recreation opportunities, as they are now understood, to be interested in what is adding materially to the cost of recreation, and apparently will add much more in the future. I refer to the six tenement blocks, and those blocks of a greater number of tenements. They occupy such a large percentage of their building lot that there is no opportunity for recreation outdoors on their own territory for those who live within them. Every block so erected means additional cost to the city for recreation, to be paid for in part by taxes upon the buildings themselves, and in part also by taxes upon homes which do provide recreation for their own. As bad as this is, worst seems to be coming, for tenements of this character are now being built in the interior of our city blocks with blind alleys and courts, a condition most severely condemned in other cities, which is being remedied at great cost in some, and which promises to become an unnecessary evil and expense to Hartford's next generation, which is the point of this discussion. It will increase materially the per capita cost of recreation in Hartford. To remedy this would require a city ordinance preventing any dwelling houses from being built that do not front upon a public street. I believe that such an ordiance would be passed if the city as a whole realized the evil that is creeping in upon it.

The experience if this year seems to lead up to the following suggestions:

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1. That in addition to such playgrounds as may be located in the parks, other playgrounds be equipped and maintained outside of the park areas wherever there is a group of children who would use them.

2. That playground apparatus be made in such form as to be as easily moved in and out of a playground as furniture is moved in and out of a house.

3. That play apparatus be frequently changed, for it is demonstrated that the same child tires of using the same apparatus longer than a week or ten days, although he may return to it with renewed vigor afterwards. The reason for this is on account of his physical make-up and not simply a vagary of his mind.

4. That outside play apparatus may be located on private grounds at the option of the owner, to be removed at one day's notice when desired without question.

It is assumed that the park interests in its play apparatus follows its moving from place to place, and that it is never lost any more than if it remained on its own territory.

5. That all playgrounds and play apparatus be cleaned and put in order daily, for it was found when this was done, the people respected and used it properly, but if the park neglected its care, the people sometimes misuse or destroy it.

6. That the department be prepared to install additional play apparatus in existing playgrounds as they may be needed, or to install new playgrounds at any time. By so doing scrapping or misuse of playgrounds and apparatus can be almost entirely prevented.

7. Pavilions large enough to accomodate 2500 people are needed in Colt and Pope Parks, and until provided, those parks must remain limited in their service to the city. The need of

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them is great, much greater than one realizes unless they have given a most careful study to the recreation needs of a city.

The Park Department through its decorational and recreational functions should become as closely connected with each home as is the Street Department and the Water Department, and as interested in the welfare of the people as is the Health Department as great service as the Street, Water and Health Departments render to a city, the Park Department should supplement that service, becoming in its own way as important, and when that comes about the Park Department will become self-supporting.

I submit three tables; No. 1 showing the number in attendance in the different park activities; No. 2 the number of permits issued; No. 3 the total cost and the per capita cost of each activity.

Respectfully submitted,

G. A. PARKER,
Superintendent.

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ACTIVITIES OF THE PARKS FOR SEASON OF 1912.

	Attendance	Cost	Average
Baseball	150,300	$702.48	.0046
Outdoor Gymnasium	86,600	290.33	.0033
Skating	72,600	553.79	.0076
Playgrounds	70,500	324.33	.0046
Rose Garden	52,000	802.26	.0154
Band Concerts	38,000	139.23	.0037
Fourth of July Celebration	38,000	200.00?	.0053
Refectory	31,400	1,077.74	.0343
Visitors at Tennis Courts	17,200	100.00?	.0058
Golf	15,800	2,922.00	.1849
Baths, Outdoor Gym.	15,200	79.82	.0052
School Gardens	11,600	133.34	.1115
Tennis Sets	10,600	827.20	.0780
Chrysanthemum Show	10,600	267.17	.0252
Picnics	8,200	431.64	.0526
Festivals	7,000	46.55	.0067
Tennis House	6,300	117.06	.0186
Golf House	5,000	342.14	.0684
Hockey Players	4,000	63.64	.0159
Christmas Tree	3,300	9.93	.0300
Football	3,000	46.52	.0155
Speedway	3,000	377.93	.1259
Golf House Baths	1,500	50.00?	.0333
Outdoor School	1,200	7.14	.0060
Tennis House Baths	1,100	40.00?	.0363
Bowling	500	78.77	.1575
Curling	500	35.60	.0701
Cricket	500	5.11	.0102
Quoits	300	56.52	.1884
Wading Pool	.....	19.07	.....
	665,800	$10,147.31	.0153

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TABLE NO. 1.

ACTIVITIES OF THE PARKS

ATTENDANCE.

	G.P.	C.P.	E.P.	P.P.	R.P.	B.P.	Total
Band Concerts	.....	8,000	.....	10,000	4,000	16,000	38,000
Baseball	3,400	72,600	13,500	44,000	16,800	.....	150,300
Baths, Outdoor Gymnasium	.....	.....	.....	15,200	.....	.....	15,200
Baths, Golf House	1,500	.....	.....	.....	.....	.....	1,500
Baths, Tennis House	.....	.....	.....	1,100	.....	.....	1,100
Bowling	.....	500	.....	.....	.....	.....	500
Chrysanthemums	.....	.....	10,600	.....	.....	.....	10,600
Cricket	.....	500	.....	.....	.....	.....	500
Curling	.....	.....	500	.....	.....	.....	500
Festivals	5,000	.....	.....	2,000	.....	.....	7,000
Football	.....	.....	2,000	500	500	.....	3,000
Fourth of July	1,000	2,000	.....	5,000	30,000	.....	38,000
Gymnasium, Outdoor	.....	.....	.....	86,600	.....	.....	86,600
Golf	15,800	.....	.....	.....	.....	.....	15,800
Golf House	5,000	.....	.....	.....	.....	.....	5,000
Hockey	.....	.....	4,000	.....	.....	.....	4,000
Outdoor School	1,200	.....	.....	.....	.....	.....	1,200
Picnics	3,100	500	2,700	900	1,000	.....	8,200
Playgrounds	1,300	9,612	.....	25,936	12,257	21,395	70,500
Quoits	.....	.....	.....	300	.....	.....	300
School Gardens	.....	7,680	.....	.....	3,920	.....	11,600
Skating	2,000	20,000	35,600	5,000	4,000	6,000	72,600

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TABLE NO. 1.

ACTIVITIES OF THE PARKS.

ATTENDANCE.

	G.P.	C.P.	F.P.	P.P.	R.P.	B.P.	Total
Speedway	.....	.....	.....	.....	3,000	.....	3,000
Tennis Sets	.....	1,932	.....	8,668	.....	.....	10,600
Tennis House	.....	.....	.....	6.300	.....	.....	6,300
Tennis Visitors	.....	2,000	.....	15.200	.....	.....	17,200
Christmas Tree	.....	.....	.....	.....	.....	3,300	3,300
Rose Garden	.....	.....	52,000	.....	.....	.....	52,000
Refectory	.....	.....	31.400	.....	.....	.....	31,400
	39,300	125,324	152,300	226.704	75,477	46,695	665,800

TABLE NO. 2—PERMITS ISSUED.

	G.P.	C.P.	E.P.	P.P.	R.P.	B.P.	Total
Tennis	.....	446	.....	1,502	.....	.....	1,948
Baseball	69	908	115	290	188	.....	1,570
Picnics	12	.....	22	1	.....	.....	35
	81	1,354	137	1,793	188	.....	3,553

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RULES AND REGULATIONS.

The Board of Park Commissioners, by virtue of the authority vested in them, hereby make and ordain the following rules and regulations for the management of the Parks owned by or under control of the city of Hartford. Any person who shall violate any of the following rules and regulations, "shall forfeit and pay for the use of the city treasury a fine not exceeding thirty-five dollars ($35.00)."

It is forbidden:—1st. To enter or leave any Park, except by the regular approaches thereto; to walk upon any grass border of any flower garden, walk, or driveway; to walk among or through shrubs, flowers, or other plantings, or to cross any lawn in any Park whenever a notice shall be conspicuously posted forbidding such crossing.

2nd. To climb, or get upon any tree, statue, fountain, fence, gate, gateway, or railing in any Park, or to use any structure therein in any way other than that for which it was intended.

3rd. To remove, cut, break, or otherwise injure, any tree or shrub, or any part thereof; to cut, pluck, or otherwise remove, any blossom or other part of any plant or flower in any Park.

4th To cut, write upon, deface, defile, or otherwise injure any building, bridge, fence, statue, fountain, seat, gate, gateway, or other structure, upon any Park.

5th. To permit any dog to pass over or to stray upon any Park where sheep are pastured or kept, unless led by a cord or chain, not exceeding six (6) feet in length, or to permit any other animal to pass over or stray upon any Park area, but this provision shall not apply to horses when ridden or driven in harness, along the Park roadways.

6th To throw any stick, stone, or other missile on any portion of any Park.

7th. To scatter or leave upon any Park any paper, rag, garbage or other litter.

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8th. To void any urine, dung or other excrement, within the limits of any Park, excepting in such place or apartment as is, or shall be, specially provided for such purpose; and in the latter case, it is forbidden to use or enter any apartment established for persons of the opposite sex exclusively.

9th. To discharge or carry firearms, firecrackers, torpedoes, or fireworks, but this prohibition shall not apply to the display of fireworks under municipal authority; to make any fire; to have any intoxicating beverage; to sell, offer, or expose for sale any goods or wares, except under a written license from the Board of Park Commissioners; to post or display any sign, placard, flag, or advertising device without such license; to solicit any subscription or contribution; to play any game of chance, or to have possession of any instrument of gambling; to make any oration, harangue, or loud outcry; to utter profane, threatening, abusive, or indecent language, or to do any obscene or indecent act; to bathe or fish; to solicit the acquaintance of, or follow, or otherwise annoy any other visitor.

10th. To drive or propel any bicycle, tricycle, automobile, or other vehicle, wheelbarrow, or handcart, on any Park, excepting on regular carriage roads; to skate or slide upon or across any walk upon any Park; or to slide or coast on any driveway.

11th. To ride or drive in any Park any horse, bicycle, automobile, or other vehicle or team, at a rate faster than ten (10) miles an hour;

To drive or lead any heavy team, business wagon or cart, excepting upon Park business, upon any Park driveway or carriageway, except a proposed parkway (when constructed and open) extending southerly from Park Street to the southern limits of Pope Park opposite the head of Hillside Avenue;

To close said proposed parkway to said public travel except from time to time for temporary repairs, without the approval of the Board of Aldermen.

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12th. To take or molest any bird, fish, frog, or any live animal, or bird's eggs, or in any way interfere with any bird's nest. or with any cage, box, place or enclosure for the protection of any bird, fish, or any live animal.

13th. To sleep upon, lie upon, or overturn, any seat upon any Park.

14th. For any men to occupy any seat designated as reserved for women and children.

15th. To play ball or any other games in any public Park except upon such portions thereof as may be set apart for that purpose.

16th. To deface or injure any notice placed by the Park Commissioners upon any Park.

The foregoing are in addition to such prohibitions and penalties as are provided by the laws of this state and the ordinances of this city.

Board of Park Commissioners,

GEORGE A. FAIRFIELD, *President.*

Attest, FRANKLIN G. WHITMORE, *Secretary.*

Hartford, January 6, 1902.

Adoptd by Board of Common Council, February 10, 1902.

Approved by Mayor, February 11, 1902.

ALEXANDER HARBISON, Mayor.

Attest, HENRY F. SMITH, *City Clerk.*

NOTE:—Rule No. 11, as amended by the Board of Park Commissioners, on the 9th day of March, 1906, was approved by the Board of Aldermen October 14, 1907.

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GENERAL STATUTES, 1888.

SEC. 1425. Every person who shall injure or destroy tree growing on any *public square or grounds*, without the sent of the city, borough, or town, where the same is situate shall wilfully injure the fences or herbage of any such p square or grounds, shall be fined not more than fifty dollars

SEC. 1426. Every person who shall wilfully injure any st monument, chair, or other seat, or any lamp or lamppost, structed or being in any *highway, public space, or park*; or railing or fence erected for public use, or inclosing any space or park; or any walk or crossing for foot passengers any sewer, curbing or paved gutter, shall be fined not less ten, nor more than fifty dollars, or imprisoned not less than se nor more than thirty days, or both.

ACT OF 1885, CH. LXVIII.

[This Act simply erases the words, "less than ten, nor," the words, "less than seven, nor," from the Section 1426, qu above.]

GENERAL STATUTES.

SEC. 132. Any town may lay out, inclose, and improve lands belonging to it, not in any incorporated city, for a pu square or common; and may purchase any land within its li for that purpose.

ACT OF 1897, CH. LII.

SEC. 1. No barbed wire shall be used in the construction fences, or retained upon existing fences, connected with or closing the grounds of any public school, or other public build *public park*, or cemetery in this state.

SEC. 2. Any person who shall violate the provisions of Act shall be fined not more than one hundred dollars

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RESOLUTION AUTHORIZING THE MAYOR OF THE CITY OF HARTFORD TO APPOINT SPECIAL POLICEMEN.

Passed General Assembly, January Session, A. D. 1905.

Resolved by this Assembly:

SECTION 1. That the mayor of the city of Hartford may, from time to time, upon the application of any society, association, or corporation, or upon the application of the Board of Park Commissioners, located within the said city, appoint and commission in writing as special policemen, one or more persons designated by such society, association, or corporation, or by said Board of Park Commissioners, which person or persons, having made the oath required of members of the police force of the city of Hartford, may act as policemen in and upon the buildings, grounds, and premises in charge of such society, association, or corporation, or park department, at whose instance the appointment or appointments shall be made. All appointments so made shall be revocable at the pleasure of the mayor, and such appointees shall receive no pay for their services as such special policemen except from such society, association, or corporation, or park department.

SEC. 2. Each special policeman so appointed shall, when on duty, wear in plain view a shield bearing the words "Special Policeman" and the name of the society, association, corporation, or department for which he is appointed.

SEC. 3. Each special policeman so appointed shall, in or upon the buildings, grounds, and premises in the city of Hartford in charge of the society, association, corporation, or department for which he is appointed, have the same powers as to the maintenance of the peace, service of criminal process, and arrest of offenders as are possessed by policemen of the city of Hartford, or by constables of towns, and shall have power to bring such offenders before the proper authority.

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OFFICERS ELECTED MAY, 1913.

PRESIDENT.

THOMAS S. WEAVER.

VICE-PRESIDENT

REV. JAMES GOODWIN

SECETARY AND AGENT OF PUBLIC CEMETERIES

FRANKLIN G. WHITMORE

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The following is nearly a correct list of the actual terms of service of each of the Park Commissioners. But as there were some resignations and deaths in office, and some appointments for filling unexpired or short terms, it is difficult to determine, precisely, the periods actually served by each:

*William L. Collins, 1860 to 1865; *President.*
*George Beach, 1860 to 1864; 1866 to 1869; *President.*
*James L. Howard, 1860 to 1863; 1865 to 1867; *President.*
*Gurdon W. Russell, 1860 to 1862; 1880 to 1903.
*Charles F. Pond, 1860 to 1861.
*Gustavus F. Davis, 1860 to 1861.
*H. Tudor Brownell, 1861 to 1865.
*Charles H. Northam, 1862.
*Edward H. Brinley, 1863 to 1864.
*James C. Jackson, 1863 to 1868.
*Thomas Belknap, 1864 to 1868.
*George S. Lincoln, 1865 to 1870.
*Samuel V. Woodruff, 1866 to 1871.
*Alpheus F. Snow, 1867 to 1871.
*Normand Smith, 1869 to 1873.
*Frederick S. Brown, 1870 to 1881; *President.*
*Edward H. Fenn, 1872 to 1881.
*Leverett Brainard, 1872 to 1876.
*Charles Dudley Warner, 1873 to 1883; 1897 to 1901.
*Abraham Hollander, 1874 to 1879.
*Stiles D. Sperry, 1877 to 1882.
*Richard D. Hubbard, 1879 to 1883.
*Samuel R. McNary, 1880 to 1883; *President.*
Francis Goodwin, 1880; *President* (served full term).
*Frank L. Howard, 1883 to 1888.
Sherman W. Adams, 1884 to 1896; *President.*
John H. Brocklesby, 1884 to 1889.
*Joseph Hall, 1889 to 1894.
Edwin P. Parker, 1893 to 1896.

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William DeLoss Love, Jr., 1894 (served full term); *President*
*Leverett Brainard, *ex officio*, 1895 to 1896.
Charles E. Gross, 1895; *President*.
Willis I. Twitchell, 1895 (served full term); *President*.
Lucius F. Robinson, 1895 (served full term); *President*.
*George H. Day, 1895; *President*.
Patrick Garvan, 1895; *President* (served full term).
Miles B. Preston, 1896; *ex officio*.
*James F. Dudley, 1896 to 1897.
*George A. Fairfield, 1898 to 1908; *President* (served full term).
Willie O. Burr, 1901 to 1906 (resigned).
*Alexander Harbison, 1900 to 1902; *ex officio*.
Ignatius A. Sullivan, 1902; *ex officio*.
William F. Henney, 1904; *ex officio*.
*Lewis C. Grover, 1904; *President*.
*Philander C. Royce, 1905; *President*.
Henry Ferguson, 1903 to 1907; *President* (resigned).
Herbert Knox Smith, 1903 to 1906 (resigned).
Frank A. Hagarty, 1906 to 1916 (resigned).
William A. Moore, to 1917; *President*.
Michael A. Sullivan, to 1916; *President*.
Francis Parsons to 1918; *President*.
Charles Hopkins Clark, 1915; (resigned).
Edward W. Hooker, 1908; *ex officio*.
Edward L. Smith, 1910; *ex officio*.
Louis R. Cheney, 1912; *ex officio*.
Lyman B. Brainerd, to 1919; *President*.
Thomas S. Weaver, 1909 to 1914.
James Goodwin, to 1920.
Mrs. A. R. Hillyer, to 1921.
Guy E. Beardsley, to 1922.
Dr. George C. F. Williams, 1912 to 1915.

*Deceased.

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APPENDIX

FIFTH ANNUAL REPORT

OF THE

Public Cemeteries

SPECIAL COMMITTEE ON CEMETERIES

FRANCIS PARSONS

REV. JAMES GOODWIN

OFFICERS

FRANKLIN G. WHITMORE, Secretary and Cemetery Agent

GEORGE A. PARKER, Superintendent and Business Agent

CHARLES T. LINDEMAN, Sexton, Old North Cemetery

MATT. MONTGOMERY, Sexton, Zion Hill and Mt. Pleasant

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Financial Statement

RECEIPTS.

Amounts received from City Treasurer by warrants drawn during year to March 31, 1913, as follows:

1912	Cash on hand	$877 40
May	Tax Fund, Warrant No. 451	428 17
June	Tax Fund, Warrant No. 453	489 44
July	Tax Fund, Warrant No. 455	607 10
August	Tax Fund, Warrant No. 457	789 18
September	Tax Fund, Warrant No. 459	801 52
October	Tax Fund, Warrant No. 463	861 76
December	Tax Fund, Warrant No. 466	1,153 04
1913.		
January	Tax Fund, Warrant No. 469	512 07
March	Tax Fund, Warrant No. 472	344 72
		$6,877

Cash received and credited to Old North and Zion Hill Cemete during the year, as follows:

OLD NORTH CEMETERY.

Sale of burial lots		$338 00
Single graves		502 00
Opening graves in family lots		257 00
Opening graves in town lot		226 50
Disinterments		10 00
Recording deeds		3 50
Special care of, and work done on private lots		554 86
Special care of lots, H. B. Philbrick Fund		54 50
Foundations		146 70
		$2,093

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ZION HILL CEMETERY.

Sale of burial lots	$1,157 50	
Single graves	379 00	
Opening graves in family lots	337 00	
Opening graves in town lot	6 00	
Disinterments	41 00	
Recording deeds	12 50	
Special care of, and work done on private lots	92 33	
Foundations	143 83	
		$2,169 16
Total Receipts		$11,139 62

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EXPENDITURES.

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
Apr. 3	Pay Roll,	528	No. 1,	$102.80
10	Pay Roll,	529	No. 2,	109.45
17	Pay Roll,	530	No. 3,	91.85
24	Pay Roll,	531	No. 4,	105.24
May 1	Pay Roll,	532	No. 5,	130.61
8	Pay Roll,	533	No. 6,	156.53
	Edward Balf Co.,	534	Stone & sand,	28.50
	Billings Sidewalk & Coal Co.,	535	Cement,	12.16
	Board of Water Commissioners,	536	Water,	1.04
	E. W. Buell,	537	Framing pins,	3.09
	Cadwell & Jones,	538	Tools,	3.42
	L. L. Ensworth & Son,	539	Tools,	1.60
	Gustave Fischer & Co.,	540	Office supplies,	5.94
	Hartford Electric Light Co.,	541	Electricity,	1.00
	Wm. J. McDonough,	542	Office supplies,	.30
	W. C. Mason & Co.,	543	Fuel,	6.50
	Henry F. Smith,	544	Recording deeds,	4.50
	Southern N. E. Telephone Co.,	545	Telephone service,	8.50
	Tracy, Robinson & Williams Co.,	546	Tools & supplies,	5.95
	Wadsworth, Howland & Co.,	547	Oil,	4.10
	F. G. Whitmore,	548	Salary,	41.66
15	Pay Roll,	549	No. 7,	109.45
22	Pay Roll,	550	No. 8,	146.74
29	Pay Roll,	551	No. 9,	201.01
June 4	Cadwell & Jones,	552	Grass seed,	6.48
	Gustave Fischer & Co.,	553	Engineering sup,	4.50
	Hartford Electric Light Co.,	554	Electricity,	1.00
	Wm. J. McDonough,	555	Ink,	.05
	Taylor & Fenn Co.,	556	Tools,	35.75
	F. G. Whitmore,	557	Salary,	41.66
5	Pay Roll,	558	No. 10,	219.36
12	Pay Roll,	559	No. 11,	158.46
14	Chas. H. Slocum,	560	Sale of burial lots	217.50
19	Pay Roll,	561	No. 12,	177.09
26	Pay Roll,	562	No. 13,	162.40
July 3	Pay Roll,	563	No. 14,	146.10
5	Edward Balf Co.	564	Stone and ashes,	15.00
	Cadwell & Jones,	565	Grass seed,	14.09

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Case, Lockwood & Brainard Co.,	566	Order books,	8.40
	Hartford Electric Light Co.,	567	Electricity,	1.00
	Edwin Taylor Lumber Co.,	568	Lumber,	15.95
	Tracy, Robinson & Williams Co.,	569	Tools,	11.00
	F. G. Whitmore,	570	Salary,	41.66
10	Pay Roll,	571	No. 15,	148.47
17	Pay Roll,	572	No. 16,	133.98
24	Pay Roll,	573	No. 17,	123.50
31	Pay Roll,	574	No. 18,	138.61
Aug. 6	American Pump & Engineering Co.,	575	Hand carts,	51.00
	Edward Balf Co.,	576	Sand and ashes,	67.00
	J. C. Bidwell & Co.,	577	Tools,	.20
	Fairbanks Company,	578	Tools,	5.60
	Hartford Cement Co.,	579	Cement,	4.10
	Hartford Electric Light Co.,	580	Electricity,	1.00
	Sisson Drug Co.,	581	Paint & brush,	1.50
	Henry F. Smith,	582	Recording deeds,	5.50
	Southern N. E. Telephone Co.,	583	Telphone service,	8.00
	Tracy, Robinson & Williams Co.,	584	Tools,	3.62
	F. G. Whitmore,	585	Salary,	41.66
7	Pay Roll,	586	No. 19,	154.50
14	Pay Roll,	587	No. 20,	148.25
21	Pay Roll,	588	No. 21,	146.45
28	Pay Roll,	589	No. 22,	153.92
	Charles H. Slocum,	590	Sale of lots,	240.00
Sept. 4	Pay Roll,	591	No. 23,	130.86
5	Edward Balf Co.,	592	Stone and sand,	17.50
	Billings Sidewalk & Coal Co.,	593	Cement,	3.80
	Hartford Cement Co.,	594	Cement,	7.20
	Hartford Electric Light Co.,	595	Electricity,	1.00
	Library Bureau,	596	Record cards,	10.50
	Sisson Drug Co.,	597	Supplies,	3.15
	Southern N. E. Telephone Co.,	598	Directory entry,	1.00
	Tracy, Robinson & Williams,	599	Tools,	2.20

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Wakefield, Morley Co.,	600	Insurance,	13.50
	F. G. Whitmore,	601	Salary,	41.67
11	Pay Roll,	602	No. 24,	141.65
18	Pay Roll,	603	No. 25,	122.43
25	Pay Roll,	604	No. 26,	188.81
Oct. 2	Pay Roll,	605	No. 27,	162.27
8	Edward Balf Co.,	606	Sand and stone,	13.00
	Billings Sidewalk & Coal Co.,	607	Cement,	2.68
	Hartford Cement Co.,	608	Cement,	2.65
	Hartford Electric Light Co.,	609	Electricity,	1.00
	Henry F. Smith,	610	Recording deeds,	2.50
	Tracy, Robinson & Williams	611	Tools,	4.26
	Thomas Trant,	612	Supplies,	2.00
	F. G. Whitmore,	613	Salary,	41.67
9	Pay Roll,	614	No. 28,	140.78
16	Pay Roll,	615	No. 29,	157.54
23	Pay Roll,	616	No. 30,	140.49
30	Pay Roll,	617	No. 31,	129.82
31	Pay Roll,	618	Sale of lots,	285.00
Nov. 5	Brown, Thomson & Co.,	619	Burlap,	7.82
	Cadwell & Jones,	620	Tools,	1.75
	E. C. Hand,	621	Repair bldgs.,	21.95
	Hartford Electric Light Co.,	622	Electricity,	1.00
	Wm. J. McDonough,	623	Office supplies,	.95
	G. A. Parker,	624	Salary,	56.67
	Sisson Drug Co.,	625	Paint,	30.09
	Southern N. E. Telephone Co.,	626	Telephone service,	7.75
	Tracy, Robinson & Williams	627	Tools,	9.00
	Wadsworth, Howland & Co.,	628	Paint,	.35
	Board of Water Commissioners,	629	Water,	10.08
	F. G. Whitmore,	630	Salary,	41.67
6	Pay Roll,	631	No. 32,	161.01
13	Pay Roll,	632	No. 33,	167.69
26	Pay Roll,	633	No. 34,	351.21
27	Pay Roll,	634	No. 35,	552.01
Dec. 3	Edward Balf Co.,	635	Broken stone,	9.00
	Brown, Thompson & Co.,	636	Burlap,	5.18

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
	Gustave Fischer & Co.,	637	Office supplies,	8.10
	Hartford Electric Light Co.,	638	Electricity,	1.00
	G. A. Parker,	639	Salary,	56.67
	Sisson Drug Co.,	640	Paint and oil,	30.07
	Henry F. Smith,	641	Recording deeds,	4.50
	Tracy, Robinson & Williams	642	Tool,	1.85
	F. G. Whitmore,	643	Salary,	41.67
4	Pay Roll,	644	No. 36,	215.89
11	Pay Roll,	645	No. 37,	200.92
18	Pay Roll,	646	No. 38,	177.50
24	Pay Roll,	647	No. 39,	115.48
31	Pay Roll,	648	No. 40,	100.46
1913				
Jan. 7	Billings Sidewalk & Coal Co.,	649	Cement,	6.28
	Hartford Electric Light Co.,	650	Electricity,	1.00
	Hartford Printing Co.,	651	Directories,	8.00
	W. W. Hunt & Co.,	652	Shrubs,	40.00
	W. C. Mason Coal Co.,	653	Fuel,	6.47
Jan. 7	Noble & Westbrook,	654	Stamps,	3.40
	G. A. Parker,	655	Salary,	33.33
	Sisson Drug Co.,	656	Paint, etc.,	20.42
	Henry F. Smith,	657	Recording deeds,	1.50
	F. G. Whitmore,	658	Salary,	41.67
8	Pay Roll,	659	No. 41,	87.17
11	Chas. H. Slocum,	660	Sale of lots,	351.00
15	Pay Roll,	661	No. 42,	94.06
22	Pay Roll,	662	No. 43,	86.55
29	Pay Roll,	663	No. 44,	86.22
Feb. 4	Hartford Electright Light Co.,	664	Electricity,	1.00
	C. T. Lindeman,	665	Freight, cartage, etc.,	20.79
	Neal, Goff & Inglish Co.,	666	Burlap,	3.75
	G. A. Parker,	667	Salary,	50.00
	Henry F. Smith,	668	Recording deeds,	1.00
	Southern N. E. Telephone Co.,	669	Telephone service,	7.50
	Tracy, Robinson & Williams,	670	Tools,	2.33
	F. G. Whitmore,	671	Salary,	41.67
5	Pay Roll,	672	No. 45,	77.07

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EXPENDITURES.—*Continued.*

Date	To Whom Paid	V'ch'r No.	For what purpose	Amount
11	Pay Roll,	673	No. 46,	68.11
19	Pay Roll,	674	No. 47,	69.61
26	Pay Roll,	675	No. 48,	67.50
Mar. 4	Billings Sidewalk & Coal Co.,	676	Cement,	1.90
	Hartford Electric Light Co.,	677	Electricity,	1.00
	W. C. Mason & Co.,	678	Fuel,	12.94
	G. A. Parker,	679	Salary,	50.00
	Plimpton Mfg. Co.,	680	Office supplies,	9.50
	Sisson Drug Co.,	681	Supplies,	3.60
	Henry F. Smith,	682	Recording deeds,	1.50
	Tracy, Robinson & Williams,	683	Tools,	2.40
	F. G. Whitmore,	684	Salary,	41.67
	Pay roll,	685	No. 49,	67.11
12	Pay Roll,	686	No. 50,	69.77
13	Chas. H. Slocum,	687	Bal. Philbrick Fd.	177.69
19	Pay Roll,	688	No. 51,	67.50
24	Chas. H. Slocum,	689	Sale of lots,	402.00
26	Pay Roll,	690	No. 52,	83.42
29	Billings Sidewalk & Coal Co.,	691	Cement,	2.50
	Case, Lockwood & Brainard Co.,	692	Office supplies,	10.45
	L. C. Daniels Grain Co.,	693	Corn,	1.54
	C. E. Hubbard,	694	Tile,	24.33
	W. C. Mason & Co.,	695	Fuel,	7.50
	Olds & Whipple,	696	Tools,	5.92
	G. A. Paryer,	697	Salary,	50.00
	Plimpton Mfg. Co.,	698	Office supplies,	5.75
	Henry F. Smith,	699	Recording deeds,	.90
	Tracy, Robinson & Williams,	700	Tools,	4.30
	F. G. Whitmore,	701	Salary,	41.67
	Wise, Smith & Co.,	702	Supplies,	1.24
Apr. 2	Pay Roll,	703	No. 53,	89.07
				$10,808.81

HARTFORD, CONN., May 19, 1913.

I hereby certify that I have examined the books and vouchers of F. G. Whitmore, Secretary of Cemetery Committee, and find them correct.

CHAS. H. ROBINS, *Controller.*

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IMPROVEMENTS.

	OLD NORTH	ZION HILL	OLD SOUTH
New Lots	$19 87		
New Grounds	9 39		
New Lawns	42 71		
New Grading		$619 91	
Totals	$71 97	$619 91	

MAINTENANCE.

Supervision	$1,134 74	$1,094 12	
Lawns	789 14	393 66	$14 40
Roads	152 62	315 09	
Walks	13 54	2 86	
Plantations	114 58	16 91	
Specimen Trees and Groves	9 04	8 04	
Buildings	22 77		
Engineering	252 26		
Inventory	24 67	18 00	5 23
Snow and Ice	12 76	14 62	
Flower Beds	21 74	2 98	
Monuments	8 97	1 76	
Drainage	32 79	5 38	
Foundations	207 33	93 24	
Tools	155 73	42 14	
Burials	424 09	293 50	
Fence	253 82	2 41	53 85
Picking	18 59	66 05	15 69
Policing	22 81	29 40	
Telephone	15 00	15 75	
Heating	23 47	8 09	
Grading	50 72		
Supplies	73 46	28 55	
Private Lots	292 93	17 98	
Compost	74 61	4 25	
Lighting	11 00		
Water	8 31	8 86	
Leaves	205 07	42 05	3 12
Deeds	1 00	7 00	
Animals and Birds	8 01		
Care of Buildings		37 11	
Totals	$4,435 57	$2,569 80	$92 29

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	Secy's Office	Supt's Office
Accounting	$330 00	$153 46
Salary	500 00	296 67
Supplies	39 85	8 10
Telephone	2 00	
Insurance	13 50	
Deeds	2 50	
Totals	$887 85	$458 23

TOTAL EXPENDITURES.

Old North Cemetery	$4,507
Zion Hill Cemetery	3,189
Old South Cemetery	92
Secretary's Office	887
Superintendent's Office	458
Grand Total	$9,135

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FINANCIAL STATEMENT FOR YEAR ENDING

March 31, 1913

1912.				
Apr. 1.	Balance on hand in Bank, H. B. Philbrick Fund	$	132 69	
	Balance on hand in Bank, to credit of Division		744 71	
	Appropriation, Maintenance and Improvements		6,000 00	
1913.				
Mar 31.	Cash received from sale of lots		1,495 50	
	Cash received from single graves, opening graves, etc.		2,766 72	
				$11,139 62
	Expenditures for maintenance and improvements during year		$9,135 62	
	Paid City Treasurer from sale of burial lots, Cemetery Fund Account		1,495 50	
	Paid City Treasurer, Balance H. B. Philbrick, Special Fund		177 69	
	Balance on hand in Bank, to credit of Division		330 81	
				$11,139 62

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Superintendent's Report of Public Cemeteries

The continuing care of the cemeteries each following improve their general appearance. The personal interest w the supervisor of each gives to his work is an important fa of their up keep. Each year the areas that can be improve increased, and more work is being done on private lots. roads, which are entirely under the care of the city, need c siderable work before they will be satisfactory, and this w should be done while there are burial lots for sale, for when lots are sold and burials mostly cease there will be little inc for improvements.

OLD NORTH.

Total expenses, $4,507.54.

The several items which cost more than one hundred dol each are as follows:

Supervision	$1,134
Grass Area	789
Burials	424
Private Lots	292
Fence	253
Engineering	252
Foundations	207
Leaves	205
Tools and Supplies	155
Roads	152
Plants and Trees	114

Of the above items, those for burials, private lots and fo dations, will be more than repaid to the city by those for w the work was done.

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The item of engineering was almost entirely for the beginning of the mapping of the cemetery, showing the location of every lot, grave, monument, stone, tree, plant, road and walk as they actually exist. The records of this cemetery were very imperfect previous to Mr. Riley's administration. The land was purchased in several parcels and never has been laid out or mapped as one; about one-eighth of this work is done.

The old wooden fences on Cemetery Street were rebuilt with new posts and rails, but the pickets were used over again.

ZION HILL.

Total expenses $3,189.71.

The larger items were for the following:

Supervision	$1,094.12
New Grading	619.91
Green Area	393.66
Roads	315.09
Burials	293.50
Foundations	93.24

The last two items are more than returned to the city by those for whom the work was done.

The item of grading and roads were in connection with the Allen place lands recently purchased. This work is about one-tenth done.

I would ask your further consideration of the necessity for additional lands for burial purposes which the city will be required to meet in at least ten years from now if not before.

Few, if any, burials will be allowed in Ancient Cemetery and the Old South Cemetery. All of the lots are sold in Zion Hill Cemtery, and the entire area of Old North is now graded, and it seems probable every lot will be taken within ten years.

The city will then have only lots in Mount Pleasant Cemetery to dispose of, and it seems probable that they will be nearly, if not entirely, sold in fifteen years. With the sale of lots and

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single graves, it takes about two acres each year for burial purposes in Hartford.

The amount of land which the city will have to furnish for burial purposes will probably be between one-half acre to one acre per year, but this will depend somewhat upon the care that is given to public cemeteries.

It seems to me desirable that the city should in the near future purchase from fifty to one hundred acres of land for a Public Cemetery.

Respectfully submitted,

G. A. PARKER,
Superintendent.

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CEMETERIES.

AMENDING THE CHARTER OF THE CITY OF HARTFORD CONCERNING THE CARE OF PUBLIC CEMETERIES.

Resolved by this Assembly: That the City of Hartford, acting by its Court of Common Council, by ordinance, is hereby authorized to impose upon and delegate to such department or commission of the City of Hartford as it deems best, the care, management and control of all city cemeteries or burying grounds; and such department or commission shall assume and carry out such duties so imposed and delegated. Such department or commission shall be limited in expenditures for such purposes by the amount annually appropriated therefor by the Court of Common Council.

APPROVED, APRIL 10, 1907.

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CITY ADVERTISEMENT.

AN ORDINANCE CONCERNING THE CARE OF PUBLIC CEMETERIES.

Be it Ordained by the Court of Common Council of the City of Hartford.

SECTION 1. The care, management and control of all the city cemeteries and burying grounds are hereby imposed upon and delegated to the Board of Park Commissioners.

SEC. 2. Said Board of Park Commissioners are hereby vested with all the powers and shall have all the duties in connection with the care, management and control of said city cemeteries and burying grounds, including the sale of lots therein, now vested in, imposed upon or assumed by the Joint Standing Committee on City Cemeteries.

SEC. 3. Said Board of Park Commissioners shall in carrying out the powers and duties imposed by this ordinance have the right to employ such agents, servants and employees in the care, management and control of such cemeteries and of the sale of lots therein, with such powers and responsibilities as to said Board of Park Commissioners may seem necessary and proper, and from time to time may change the same at pleasure, and shall from time to time fix the wages or compensation of such employees. Said Board of Park Commissioners may further adopt such rules and regulations as to the care, management and control of such cemeteries and burying grounds, and the sale of lots therein, as said Board shall deem to be for the proper management of the same, and may alter or amend the same. Such rules and regulations as may from time to time be adopted, altered or

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amended by said Board shall, after publication in accordance with the ordinances in reference to city advertising, have the force of city ordinances.

SEC. 4. All proceeds of the sale of any and all lots in said city cemeteries and burying grounds shall on receipt of the same be transmitted to the city treasurer, who shall not cover the same into the city funds, but shall deposit the same in such bank or banks, trust company or trust companies as may be designated by the board of finance, to be held and retained by such bank or banks, trust company or trust companies as a separate city fund to be known as the "Cemetery Fund."

SEC. 5. The income of such cemetery fund, as the same accrues, shall be placed by the city treasurer at the disposal of said Board of Park Commissioners in addition to such amounts as from time to time may be appropriated therefor by the Court of Common Council, to be expended by said Board of Park Commissioners, if it deems necessary or proper, in the care, management and control of such cemeteries and burying grounds and the improvement of same. Said income of such cemetery fund, together with all amounts appropriated by the Court of Common Council as aforesaid shall be deemed park funds, limited in their expenditure for the uses and purposes of the city cemeteries and burying grounds under the provision hereof, and shall be paid out by the city treasurer upon warrants signed by at least three members of the said Board of Park Commissioners.

SEC. 6. All income accruing from such fund and not so drawn by said Board of Park Commissioners for the purposes as above set forth shall at the close of the fiscal year be added to the principal of said cemetery fund and thereafter held by the city treasurer and such depositaries as and for such principal.

SEC. 7. Said Board of Park Commissioners shall be limited in expenditure in carrying out the powers and duties imposed

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upon said Board by this ordinance to such amounts as from time to time may be appropriated therefor by the Court of Common Council, but such limitation shall not be deemed to prohibit the expenditure by said Board of such additional amount or amounts as shall accrue as income from said cemetery fund.

SEC. 8. All ordinances, resolutions or parts thereof heretofore passed by the Court of Common Council in reference to said cemeteries and burying grounds are hereby repealed.

SEC. 9. This ordinance shall take effect April 1, 1908.

APPROVED, February 25, 1908.

Attest: HENRY F. SMITH, *City Clerk.*

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RULES AND REGULATIONS

As to the Care, Management and Control of the City Cemeteries and Burying Grounds, and the Sale of Lots Therein.

Rule 1. All sales of lots shall be by deed executed by the Mayor of the City of Hartford, which deed shall grant to the purchaser only the right of interment upon his lot or its use for burial purposes for himself, his family, his heirs, and assigns subject to such rules and regulations for the care, management and control of city burial grounds and cemeteries as are now or may hereafter be adopted and established by the Board of Park Commissioners of the City of Hartford.

Rule 2. The Town Clerk shall keep a record of all deeds of lots for burial purposes, which record shall show the number and size of lot, the name of the purchaser, date of the sale, and the price paid. A map or maps of all cemetery property showing accurately the location, number, and size of each lot shall be deposited and shall always remain in the Town Clerk's office.

Rule 3. The Cemetery Agent will issue orders to the sextons of the cemeteries to open graves when permits issued by the Registrar of Vital Statistics are furnished him at his office in the city in conformity with the law. Notice should be given so as to allow eight (8) hours of daylight for the work. No interment will be allowed without such an order, which is also necessary in the case of disinterment.

Rule 4. All excavations for vaults and other foundations must be made by the employees of the Park Department at the expense of the lot owners. Foundations for monuments must be

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built of solid masonry not less than four (4) feet in depth below the surface of the ground, one (1) inch wider than size of the lower base of the monument, and shall not extend above the surface of the ground. Foundations, graves and grave marks must be at least six (6) inches inside the lines of the lots. All graves shall be opened, filled and graded by the sextons of the cemeteries or by employees of the city acting under their direction.

Rule 5. All workmen employed in the construction of vaults, erection of monuments, or work of any kind within the cemeteries must be subject to the control and direction of the sextons, and any workman failing to conform to this rule will not be permitted afterward to work in the cemeteries, except by vote of the Park Board.

Rule 6. Owners of lots may have shrubs and plants planted upon their lots by the superintendents of the cemeteries, said plantings to be under the control of the Board, but the right is reserved to remove at any time any shrubs, plants, trees, monuments, or inscriptions that are in any way objectionable or injurious in the opinion of the Board of Park Commissioners.

Rule 7. The owner of a lot may cause any proper vault, monument or sepulchral memorial to be erected upon his lot, subject to the approval of the cemetery committee of the Board of Park Commissioners. All monumental work and grave marks must be on stone and cement foundations. Stone grave marks in one piece and placed three (3) feet in the ground will be permitted, and if placed at the head of the grave should not be more than twenty (20) inches above ground.

Rule 8. The proprietor of each lot shall furnish, to be erected by the sextons, at the corners of his lot such merestones or lot marks as shall be adopted by the Board of Park Commissioners.

Rule 9. Hereafter no fence shall be built or hedge planted

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enclosing any lot or any portion thereof except with the consent of the Board of Park Commissioners.

Rule 10. The grades of the lots shall be in accordance with the grading plan as determined by the Park Board.

Rule 11. When two or more persons are jointly interested as owners of the lot, no division lines within the same will be recognized.

Rule 12. Arrangements for special care or for improvements and maintenance of lots may be made with the Superintendent subject to approval of the Board of Park Commissioners.

Rule 13. All rubbish left on private lots must be collected and removed to such places of deposit as are provided, and in case of failure to comply with this rule, such rubbish will be removed at the expense of the lot owner.

Rule 14. The placing of boxes, shells, novelties, toys or other similar articles on graves is prohibited. The City or Park Board is not responsible for anything placed on lots or graves, and funeral pieces or floral designs will be removed when they become wilted and unsightly.

Rule 15. Automobiles and bicycles are not allowed within the limits of any of the city cemeteries without special permit issued by the Superintendent of Cemeteries.

Rule 16. No dogs, except when confined by leash and with the permission of the sextons, will be allowed to enter any part of a cemetery, and all stray dogs found in the cemetery precincts will be turned over to the dog warden.

Rule 17. Drivers of carriages employed at funerals will be required to remain quietly with their teams during the ceremonies. No horse shall be left unhitched within the cemetery precincts, and no feeding of horses, no rapid driving and no driving on sections will be allowed.

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Rule 18. No cemetery roads or paths shall be used as thoroughfares or as short-cuts from one street to another, and all visitors are required to keep to the roads and paths and are not allowed to intrude upon lots.

Rule 19. It will not be permitted to take refreshments into the cemetery precincts.

Rule 20. No person with firearms, except at military funerals, will be permitted to enter any part of the cemeteries.

Rule 21. Heavily laden teams will not be allowed to enter the cemeteries in wet weather, or when, in the opinion of the sextons, the roads are in danger of injury therefrom.

Rule 22. All interments are private; strangers must not intrude or approach the grave during the ceremonies.

Rule 23. No money shall be paid or gratuity given to any person employed in the cemeteries in reward for any personal attention, and any incivility on the part of any employee should be reported to the cemetery committee of the Board of Park Commissioners.

Rule 24. The gates shall be opened each day at 7 A. M. and closed at sunset, when all persons must leave the cemeteries Any person disturbing the quiet and good order of the cemeteries by noise or other improper conduct, or any person who shall violate any of these rules will be compelled instantly to leave the cemetery.

Information in Regard to City Cemeteries and Burial Grounds.

The cemeteries owned by the City of Hartford have by legislation been placed under the care and management of the Board of Park Commissioners. Said Board have raised a committee of

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two of its members to be known as the "Cemetery Committee," to whom is referred the questions relating to the cemeteries for investigation and report to the Board. The Park Board, in establishing these rules and regulations, have no other purpose in view than the improvement, care and ornamentation of the grounds and for the common good of the lot owners and the public. No profit or gain of any kind can be obtained by any employee of the city, and the moneys received for sales of lots or for services rendered in the cemeteries are expended for their maintenance and improvements and can be used in no other way.

The business of the cemeteries, the receipt of moneys for all purposes, the selling of lots and everything connected therewith and the permits for burials, graves and all matters connected with the burial are under the direct charge of the Secretary of the Board of Park Commissioners acting as Cemetery Agent.

The general care of the grounds, roads, walks, lots, and the physical property connected therewith, is under the charge of the Superintendent of Parks acting as Superintendent of Cemeteries and in the direct care of the Sexton of each cemetery who is responsible for the personal property belonging to the city, for the employees and for the maintenance of order and decorum of all who visit the cemeteries.

All persons desiring to purchase lots should visit the cemetery, where the sexton will be found in attendance and give all necessary information. The business of transferring the lots and the making of the deed is attended to by the Cemetery Agent at the office of the Board of Park Commissioners. All deeds are recorded with the Town Clerk.

Each owner is requested to make a diagram of his lot, attach the same to the deed, and record on it burials with names and dates. Such a diagram drawn to scale will be furnished to each lot owner for him to fill out, upon request.

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Schedule of Prices.

Lots—Old North

16 x 20	12 graves	$80.00
8 x 20	6 graves	40.00
8 x 10	3 graves	20.00
20 x 20	12 graves	100.00
10 x 20	6 graves	50.00
10 x 10	3 graves	25.00

Lots—Zion Hill, Mount Pleasant Addition.

10 x 20	6 graves	$50.00 to $100.00
		According to location.

Single Graves.

For box 2 ft. 6 in. or under	$4.00
For box 2 ft. 6 in. to 4 ft. 6 in.	6.00
For box 4 ft. 6 in. or over	10.00

Opening Graves in Lots.

For box 2 ft 6 in or under	$2.00
For box 2 ft. 6 in. to 4 ft. 6 in.	3.00
For box 4 ft. 6 in. or over	4.00
For brick vault	6.00

Disinterments.

For box 2 ft. 6 in. or under	$3.00
For box 2 ft. 6 in. to 4 ft. 6 in.	4.00
For box 4 ft. 6 in. or over	5.00

Tomb Charges.

Receiving body	$1.00
Per month	1.00

Charges for work and material.

Laborers	.25 per hr.
Single teams	.40 per hr.
Double teams	.60 per hr.

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Compost	.15 per cu. ft.
Foundations	.40 per cu. ft.
Loam	.10 per cu. ft. $1.00 to $2.00 per load.
Ground bone or fertilizer	.04 per lb.
Turfing (including turf)	.05 per sq. ft.
Turf (without labor)	.02 per sq. ft.
Seeding after grading (including seed and fertilizer)	.02 per sq. ft.
Turfing and seeding grave (including turf)	1.00

NOTE:—The above prices for lots include ordinary care; that is, keeping the lot clean and mowed with scythes twice a year.

The foregoing Rules and Regulations were adopted at a special meeting of the Board held May 19, 1911; were advertised twice in two daily newspapers according to law, and therefore have the force of City Ordinances.

BOARD OF PARK COMMISSIONERS.

Attest: FRANKLIN G. WHITMORE,

Secretary.

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REPORT

OF THE

Juvenile Commission

1913

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THE JUVENILE COMMISSION, 1912-1913

UNTIL APRIL 30, 1913

REV. J. F. RYAN — J. E. DENNIS

UNTIL APRIL 30, 1914

MRS. HENRY FERGUSON — MISS ANNIE ELLIOT TRUMBULL

REV. ROCKWELL HARMON POTTER — GEORGE A. PARKER *

* Resigned April, 1913.

ORGANIZATION

CHAIRMAN, REV. J. F. RYAN

SECRETARY, GEORGE A. PARKER *

ASSISTANT SECRETARY, MISS HETTIE GRAY BAKER **

* Resigned February 1913; W. J. Hamersley appointed.

** Resigned September, 1912.

COMMITTEES

INVESTIGATION AND STATISTICS

MR. PARKER — MRS. FERGUSON

OCCUPATION AND RECREATION OF CHILDREN OF SCHOOL AGE

FATHER RYAN — MRS. FERGUSON

CARE OF INFANTS UNDER SCHOOL AGE

MISS TRUMBULL — MRS. FERGUSON

MINORS OVER SCHOOL AGE

DR. POTTER — MR. PARKER

FINANCE AND AUDIT

MR. PARKER — MR. DENNIS

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To the Mayor and the Honorable Court of Common Council of the City of Hartford:

The Juvenile Commission would respectfully submit to you its report for the year ending April 30, 1913.

The Commission met on May 15, 1912, and organized by the appointment of officers and committees as shown on the preceding page. The Commission has met regularly during the year on the second Wednesday of the month at the office of the Board of Park Commissioners, the use of which was kindly offered to this Commission by the Park Board.

Mr. George A. Parker acted as secretary until the end of February, 1913, being assisted by Miss Hettie Gray Baker until September, 1912.

The following is a Statement of the Juvenile Commission expenses during 1912-1913:

APRIL 1, 1912, APPROPRIATION, $500.00

June	1	H. G. Baker, services	$62.00	
June	15	L. L. Kane, services	200.00	
Aug.	30	Case, Lockwood & Brainard	108.00	
Aug.	31	Chas. Dillon & Co., supplies	1.85	
Oct.	27	Plimpton Mfg. Co., supplies	3.50	
Oct.	31	Plimpton Mfg. Co., supplies	13.00	
Nov.	23	Helen J. Karlson, services	8.00	
Nov.	30	Plimpton Mfg. Co., supplies	1.35	
Dec.	2	Carl Aronovici, investigator	5.54	
Dec.	27	A. L. Cox, services	5.80	
Jan.	9	Helen J. Karlson, services	8.65	
Jan.	9	Margaret Hickey, services	15.15	
Jan.	24	Helen J. Karlson, services	8.65	
Jan.	28	H. G. Baker, services	9.00	
Mar.	24	Mary Fynes, services	14.18	$464.67
		Balance		$35.33

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September	9, 1912,	Appropriation for Investigator,		$1,000.00
Oct.	31	Lillian L. Kane, services	$179.17	
Nov.	22	Lillian L. Kane, services	45.85	
Dec.	3	Plimpton Mfg. Co., supplies	5.50	
Jan.	19	Raymond W. Smith	9.75	
Feb.	1	Edna Irish, services	10.00	
Feb.	10	E. M. Brown, services	7.31	
Feb.	10	Helen J. Karlson, services	8.65	
Feb.	25	Mary Fynes, services	4.15	
Feb.	27	Underwood Typewriter Co	3.00	
Mar.	10	J. R. Kemmerer, services	44.00	
Mar.	10	Mary Fynes, services	14.65	
Mar.	11	Annie L. Cox, services	9.90	
Mar.	24	J. R. Kemmerer, services	16.00	$357.93
		Balance		$642.07

The investigation of the Commission in regard to the nature of the employments engaged in by the children of Hartford between the ages of fourteen and sixteen which was carried on during the months of March, April, May and June, 1912, is contained in the report of the Juvenile Commission of last year.

At the present time the State Board of Education conducts such an investigation annually and places the results of its investigation at the disposal of the Juvenile Commission. These results for the past year are presented in the following table in a very condensed form, all businesses employing less than ten children being grouped together.

Business.	Establishments visited.	No. of children 14 to 16.	under 14.	Total.	No. of certificates on file, issued before Sept. 1,'11.	after Sept. 1,'11.	Total.	No. of children without certificates, 14 to 16.	under 14.	Total.
Auto supply and repairing,	19	11	..	11	..	4	4	7	..	7
Bakeries,	23	10	..	10	..	9	9	1	..	1
Chain manufacturing,	1	13	..	13	..	12	12	1	..	1
Clothing manufacturing,	7	16	..	16	1	9	10	6	..	6
Department store,	6	285	..	285	48	235	283	2	..	2
Electric supply,	11	76	..	76	2	70	72	4	..	4
Five twenty-five cent stores,	8	23	..	23	1	20	21	2	..	2
Grocery stores,	164	27	2	29	2	14	16	11	2	13
Hardware manufacturing,	6	10	..	10	..	10	10	..	..	..
Meat markets,	60	17	..	17	..	9	9	8	..	8
Millinery,	17	10	..	10	6	1	7	3	..	3
Printing, engrav., and pub.,	49	16	..	16	..	7	7	9	..	9
Screw manufacturing,	5	18	..	18	..	12	12	6	..	6
Typewriting manufacturing,	5	127	..	127	25	101	126	1	..	1
All others,	954	141	4	145	1	99	100	41	4	45
Totals,	1,334	800	6	806	86	612	698	102	6	108

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In the spring of 1912 a very searching and thorough investigation was conducted by the Commission in regard to the need of small playgrounds located in the congested portions of the city. An account of this investigation was contained in the report of the Commission last year. With this information as a basis, a conference was held between the Juvenile Commission and the representatives of the Park and School Boards during the latter part of April, 1912, and as a result a resolution was introduced in the Common Council providing for the leasing of private property to be used for play grounds for young children. This resolution was passed together with an appropriation of $1500 for their equipment, which was placed under the control of the Park Board, and for their supervision which was placed in the hands of the Board of School Visitors. It was not found to be possible to lease the spaces for playgrounds, but 7 playgrounds were placed in operation at the following locations, in addition to those placed on the Parks: Connecticut Boulevard, Charles Street, Pequot Street, Brown School, Village Court, Pleasant Court, Ely School, and Liberty Street.

A detailed statement concerning these playgrounds may be found in the report of the School Visitors for the year ending July 14, 1912. The attendance at the playgrounds was as follows:

July,	Total, 106,194	Daily Average, 4,674
August,	Total, 55,381	Daily Average, 2,413

During these same months the Commission decided that they would undertake to acquire some detailed knowledge of the Juvenile population of Hartford. A special appropriation from the city of $1000 to carry on this work was received by the Commission. Owing to the delay in receiving the appropriation and other circumstances the work was not fairly begun until October, and then further delay was caused by the resignation of Miss Kane, who returned to her former work of vocational guidance. The original plan of the Commission was to obtain detailed information of the 40,000 children of the city of Hartford, but as a result of the above circumstances the investigations of the Commission were greatly narrowed. It is interesting to note that when the original plan was submitted to investi-

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gators in the city of Hartford and in Washington and New York it met with unqualified approval from such offices as the United States Census Bureau, the United States Labor Bureau, the United States Child Bureau, all of Washington; and from the New York Public Library, the Russell-Sage Foundation, the Bureau of Municipal Research, the United Charities, the National Playground Association, and other New York organizations, as being an excellent way to co-ordinate the work for the children of Hartford. The report of the Statistical Committee contains a summary of the investigations which, after Miss Kane's resignation, were carried on by Mr. Parker.

HARTFORD, Conn., March 18, 1913.

The Juvenile Commission, Hartford, Connecticut.

The Committee on Census respectfully submit their report:

The difference of opinion as to the purpose for which the One thousand dollars was appropriated led to some confusion in the beginning of the work. Furthermore, Miss Kane resigned her appointment as "Juvenile Investigator" to take up again the work of "Vocational Guidance." Since Miss Kane's resignation no professional investigator has been employed, the work being carried on by your committee with the aid of clerical help.

Miss Kane investigated some locations and compiled lists of births and deaths of infants in Hartford under five years old, the purpose being to install a card index of the children of Hartford. This was in part supplemented by abstracts from the school census. The two together would probably give a list of all the children in Hartford under sixteen years. A complete card index would contain something like twenty-five thousand names, and keeping it up to date would probably involve making five thousand entries each year, which was more than we were able to do without a trained person in charge. We believe that such a card index is essential to the successful carrying out of the work. Nothing short of it will enable the city of Hartford to fully understand its problem of child life.

Of course, such a card index if not interpreted carefully, is useless, or if wrong deductions are made it becomes misleading, but if properly used it would prove most valuable.

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Your committee realized the impossibility of doing this work with the help at hand during the present fiscal year, so it undertook to make a thorough examination of only three sections of the city, each ten acres in area, of three different types. Each area was typical of the character of the neighborhood in which it was located. There was no desire to get extreme conditions but to have them fairly representative of the group of people under consideration. The A group consisted of homes of the laborer whose weekly earnings are from nine to twelve dollars per week; the B group those of mechanics, and shop hands; the C group those of office men, bank men and what are usually known as well-to-do but not the wealthy class.

None of these areas were exactly ten acres, but all have been reduced to that proportion. In section A 53 per cent. was built over, in section B only 29 per cent. was built over, and section C had six times as much outdoor room as was built over.

If we consider the sections by floor space, that in section A covers the ten acres one and a quarter times, while section B would be three-quarters covered over and section C would be less than half covered.

There are garages and stables in section C, but no stores, while in section A there are no garages, but there are stores, saloons, storerooms, and workshops, enough of this kind of room existing to cover two acres or one-fifth of the entire territory. This adds materially to the congestion of their homes. In section B there is only about one-seventh of an acre of such buildings.

The number of square feet of land per capita in section A is 165 feet, in section B 948 feet, and 2889 feet in section C. In floor space the homes in section A contain 168 feet per capita, 786 feet per capita for section B, and 1267 feet per capita for section C; over seven and one-half times as much floor room for section C as for section A.

The difference in birth rate is very great. In section A there were 138 births, in section B 32, and in section C none. Regarding the deaths, the difference is not so startling, there being 20 deaths of children in section A, 7 in section B and one in section C. There were 26 marriages in section A, 4 in section B, and 2 in section C.

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Of course, the number of people who live on the ten acres in section A is much greater than the number who live on the ten acres of sections A and B. There are six times as many persons on the ten acres of section A as there are on section B and ten times as many as on section C. When the population is reduced to the same number the ratios differ materially from those given.

It may seem unusual and unfair to compare the city's population by the acre and that but little good can be derived from such measurement; yet, sunlight, air and the room to play are essential factors in child life, and so the number of buildings and people per acre, the amount of floor space and the height of buildings are all important factors in the lives and happiness of the small children especially, for their range of activities is either within or almost entirely within their home during the first few years of their lives.

In section C there is ample room for the children, for in that section is the most room and the fewest children. In section B there is a sufficient number of square feet of outdoor space for all the children if it could be used, but these houses contain three or more families and no provision is made for the children outside the walls of the house. There is difficulty in maintaining the necessary provisions, even though the yards are distinct, for there are several families interested in each yard with equal rights. While they have mutual interest yet there is no coordination of effect, and it results in little being done.

The land is owned privately, yet the owner seldom lives in the house or in the district. It is somewhat of the same nature as "absentee landlordism" which makes trouble wherever it exists. The interest of the owners is purely for the rent and money obtained. They are not in a position to maintain the grounds even if they should put them into the best of condition for play purposes.

They are apt to consider tenement houses as private property with only the private interest of the owner at stake, and technically that is a fact; yet when one man owns many tenement houses, or where a large number of people are housed in tenements, or when a substantial section of the city is exclusively

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used for tenements, then it partakes more of the nature of a public service corporation. But the tenements are more important, for they have to do with the life, health, and happiness of the city's children, and the city has an interest in, and is responsible for, the recreation of the children that live there.

The city should have the privilege of using the open spaces within such tenement sections so as to provide opportunities for play for the children from one to ten years old who live in the tenement. It is not probable that the owner of these tenements would give up any of the outdoor space or even lease the same to the city, and neither is it necessary, but it is possible and necessary that the city should work jointly with the landlord and the tenant and see to it that play apparatus and play opportunities are provided within such districts, that is, the city's interest should allow it to follow its ownership of play apparatus and facilities on to private property in the tenement-house sections.

Our deductions from this investigation are as follows:

First. With the wealthy, whose children have play-room and play houses, and who are usually at the seashore or the mountains during vacation, the city does not seem to be called upon to provide recreation facilities and apparatus. Yet frequently a more strenuous play seems needed than they now receive, and competition with other groups seems desirable. The wealthy do not always have the store room needed to make a change of play apparatus that is desirable in the growth of the child. We believe a "circulating library of play apparatus" might be of use to them.

Second. With the well-to-do group, where there is an abundance of outdoor room, we believe it would be well if some method was devised that would lead the children not only to use the ground for gardening and play, to grow both vegetables and flowers, and to live the outdoor life in tents or huts of their own construction, but which would also furnish the necessary play apparatus with the frequent changes which are so necessary to develop all parts of the body. This investigation has shown most clearly that the owners of these ample yards and the parents of many of these children have not the knowledge or

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training, even if they had the time, to act as leaders or to give the information and enthusiasm needed to make their children successful in the use of the outdoor room of their homes. There seems to be a woeful lack of knowledge and skill in the development and care of these lands amongst this class, and if the children are to have a worth-while guidance in how to use their back yards and side courts it will have to be given by others than their parents. No party seems so well-fitted to do this work as the city, either through its school or park department or by both. If undertaken by the city it might be arranged so as not to cost the city anything.

Third. In the tenement-house section, where there are many children and less room, we have several families and more children interested in the same yard, and it is evident that unless the grounds are well designed for the purposes they are to serve, and are cared for without regard to the complex rights of their different users, no satisfactory or efficient use can be made of these yards. Here it seems as if the city might enter into some arrangements with the owners and the tenants so that the work could be well done and the children come into their own.

Fourth. In the congested section, where rents are lower and the groups of people who live there earn less and have less, where it is a wearying struggle to meet the simplest needs, it seems as if the city should arrange with the owners of such vacant spots as are suitable for their use in recreational work, and that the city should fit them up and care for them entirely at the city expense. The city is largely responsible for the congestion, and it seems only fair that it should pay the bills resulting from it and not punish the children for what is neither their fault or their parents'.

All these suggestions are for children under twelve years old; over that age they have begun enlarging their sphere of activity and can go to places where provisions have been made for recreation of older people.

Although our investigation has to do with children, incidentally we might add that the provisions suggested would add much to the health, and the happiness of the women of the different neighborhoods and to the rest and comfort of the man. It

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would tend to increase the family's interest in the home and to keep families together.

The result of the work of your committee may seem very slight when compared with the work that is to be done, yet it has taken considerable time and thought to produce even this mouse.

We would acknowledge the valuable help that has been received from the Engineering Department which furnished plans and data needed to obtain the different areas and their subdivisions; from the Health Department for data regarding births, deaths, and marriages; from the School Department for the use of the School Census and valuable advice; from the Park Department for the use of their office and their records; from the Bureau of the United States Census for the use of their detailed reports; from Geer's Directory for valuable information not to be obtained elsewhere; from the Librarian of the State Library and the Librarian of the Public Library of Hartford for compiling lists for reference and for the use of documents.

Everywhere we have met with the best of good will and courtesy, and we would extend our thanks to the many people who have helped us without mentioning them by name.

We have thought it best not to definitely state the location of the sections investigated nor to give the streets and numbers or the names or other information that would lead to their identification, and for similar reasons we have omitted all except maps typical of each section and general tables. Other details would not add to the value of the deductions and would multiply the size of the report many times.

Respectfully submitted,

GEORGE A. PARKER,
MRS. HENRY FERGUSON.

Committee on Statistics.

The Commission feels that the above recommendations of the Statistical Committee deserve serious consideration, and the Commission wishes to defer any specific suggestions until it has had some time to thoroughly consider the matter.

The Juvenile Commission took part in the Child-Welfare Exhibit held during the autumn in the Center Church House.

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The Commission exhibited a model of the playground in use at the North Street Settlement as a type of those necessary and suitable for the congested portions of the city, exhibiting also figures showing the necessity for such provisions.

Much labor was given to arranging a conference which was held January 7, 1913, under the auspices of the Board of School Visitors, the Park Board, and the Juvenile Commission, to which representatives of the various organizations, municipal, charitable and religious, which are interested in child welfare were invited. The addresses made at this Conference seem to the Commission to be of such value that they have been included in an abbreviated form in this report as Appendix A. January 13, 1914, has been named as the date for a similar conference to be held next year.

Appendix B contains the bibliography of all the child welfare literature at present on the shelves of the State Library at Hartford and the Hartford Public Library. This is included as being of great value to all interested in work among children and not to be obtained elsewhere.

On the suggestion of the Juvenile Commission the Hartford Public Library has established a bookcase where books relating to child welfare are collected and catalogued for the use of the general public.

Appendix C contains a list of those charitable, religious and municipal bodies whose work brings them in contact with children together with the executive officers of those bodies. It also includes a table showing in more or less detailed form the number and age of the children who have been under their care or influence during the past year. This table, which is not complete, since numerous organizations have their records in inaccessible shape or keep none at all, is the basis from which the Commission must start when it enters upon its work of obtaining detailed information of the children of Hartford, arranged in an easily accessible form.

Appendix D contains a condensed report of the talk in Hartford by John Collier, Ph.D., on "Commercialized Amusement." On account of the many striking statements and ideas contained in this address, the Commission felt it would be a benefit to include it in this report.

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The Commission sustains a great loss this year through the resignation of Mr. George A. Parker, who has been a moving spirit from its first organization in all its work, especially in the investigations, the results of which are contained in the report of the Statistical Committee. Yet as he resigns to devote himself more entirely to the work of the Park Board, which includes new plans for the recreation of children, as well as adults, the Commission cannot object to his withdrawal, feeling that the city will be greatly benefited by his executive work and that the Commission may hope that it will still benefit by his valuable advice in the future as it has profited by it in the past.

(Signed)

Rev. John F. Ryan,
John E. Dennis,
Mrs. Henry Ferguson,
Miss Annie E. Trumbull,
Rev. Rockwell Harmon Potter.

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APPENDIX A

UNION CONFERENCE — RELATING TO CHILDREN

Tuesday, January 7, 1913

ADDRESS OF THE PRESIDING OFFICER

LOUIS R. CHENEY

Mayor of Hartford

"This is a Child's Conference, a Conference relating to Hartford's greatest asset. It is well for those who are interested to consult together regarding their number, their groups and their needs, in order that Hartford as a whole may see its children as one great family. This Conference has been called under the auspices of the School Board, Park Board, and the Juvenile Commission. The plan is that those who are interested in the different phases of child life shall present them from their view point, and that the summing up of these different views and recommendations to come out of them shall be made by Dr. Potter, who will follow the speakers. While there is not time for long discussion, as the program is quite a full one, yet we hope that those who have questions to ask the different speakers will feel free to do so, and if there is not time this evening to fully reply to these questions the speakers will undoubtedly be ready to answer them personally after the meeting is over."

Mayor Cheney, by illuminating statistics, showed the magnitude which public recreation will attain in Hartford though confined to children alone. He continued, first emphasizing the close connections between the present conditions of the children and the future of the country:

"Up to 1909 the children of Hartford had to look out for themselves, as regards their activities outside of school and park. Of course, the Park Commissioners, and Board of School Visitors looked after the children's welfare in their

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particular departments, but otherwise nothing was done to see that their paths lay straight.

In 1909 the Juvenile Commission was formed — making the triangle complete. The School Visitors take care of the children at school; the Park Commissioners look after their play in the public parks, and the Juvenile Commission concerns itself with their life at other times.

It has many directions for its activities, but the most important of all is that of careful investigation and accurate knowledge of all conditions of Child Life in Hartford, thus forming a basis for use by officials and volunteer organizations who carry on the work of child welfare in Hartford.

The initial effort required to do this will be very tedious and very heavy, and as yet the Commission has hardly taken up its task. The beginning, however, has been made and if time and money prove adequate the work will go on and the results will be invaluable.

One word about a loss that not only has crippled the Juvenile Commission, but has been also a very heavy loss to our whole city — that is the death of Mary Graham Jones in April, 1912.

She was the originator of the Hartford Social Settlement Work; was with the Juvenile Commission from its beginning, when it was organized in 1909, and gave it the full benefit of her ripened experience and material judgment. The love was for all children,— the children of Hartford, who were her children. Many of the young of the city have cause to remember gratefully her kindness and her ministrations.

The playgrounds maintained on vacant lots by the city during the summer of 1912 were selected and investigated chiefly by her efforts. Endeavors to secure these playgrounds occupied her thoughts on her deathbed and on the day of her death.

It would not be right for me to close these few remarks without alluding to the successful carrying out of the whole playground scheme of last summer, which was brought about by the very great executive ability of Messrs. Thomas S. Weaver and George A. Parker, than whom none are more familiar with the children's needs."

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CHILD LIFE IN HARTFORD

GEORGE A. PARKER

Superintendent of Parks

The functions of life are occupation, education, and recreation. These on the one hand produce food, clothes, shelter, and transportation; on the other hand social, civic and spiritual relationship. These ten main divisions with their many subdivisions, were once personal affairs, but as states and nations grew many of them have become public affairs.

With our constitution this nation undertook to establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and to secure the blessings of liberty to ourselves and our posterity, a wonderful undertaking for a nation. Since then the states have taken in charge education, and time is fast coming, and may be already here, when the city will provide public recreation, leaving for private care, food, clothes, shelter, social and spiritual relationship, and of these there are indications that housing in cities may become a municipal function.

In all these world changes child life held its own fairly well until the modern industrial city, a brand new type of city, came with the last century. Child life was fairly well cared for as long as the home was full fledged, but with the industrial city and the crowding of the home into a few small rooms in a tenement house in a congested district, and with the loss of the cementing influence of housework and work done in the homes, much of which is now done outside, the child is faring badly, for he is shut away from his father during work hours, and the mother can no longer keep an eye on her little one when it is at play. The streets have taken the place of open fields; the methods of modern schooling exclude the parents largely from what is taught, and the little "Kiddies" know little of that home life that was universal for generations be-

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fore the present one. The result is deplorable, yet it still has its bright side and advantages of which we are all aware.

The remedies for what we have lost are near at hand, are fairly well known, and undoubtedly will be applied as soon as adjustments can be made. It is no small job to balance the functions of a city.

We begin with the proposition that there is now not only an abundance, but a superabundance of wealth, happiness, food, clothes, shelter; everything that is necessary to make a city contain a strong, righteous and prosperous people.

The Creator has never ceased to shower upon us everything we need. He only requires in return that we shall live in normal relationship with the world, the people and Himself. It is safe to say that wherever there is sin and pain, sorrow and hunger, cold and sickness, or any other evil, that there exists at that time and place, and with that person or with that community an unnatural or abnormal relationship. Sickness is an abnormal condition of the body. A physician cures his patient simply by bringing back again normal conditions. So it is with the city; if there is sin and suffering, sickness and sorrow, hunger or cold, then there exists abnormal conditions, which are removed by simply making the conditions normal. The remedy is simple and sure, but to apply it is often complex, difficult and baffling, yet when found it will be so simple as to lead us to wonder why it was not seen before, for whatever is rightly done, is easily done. I would not lessen anything that alleviates suffering, sorrow and poverty, but alleviation is not the great fundamental need. To cure is necessary when sick, "yet prevention is better than cure." Help the poor by all means, but strive to produce such harmony of conditions that there will be no poverty.

Before the child question is settled, or perhaps with it, comes the land question, and the tax, the housing and the labor questions. They are all tied up together in the same bundle. It may be that through the child question all the others will find their solution, for if conditions permit normal child growth and development it must follow that the other questions have been rightly solved.

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A simple way of planning to do this work would be to parallel the methods of planning for a large park. We all turn to our own special business for illustrations. (A shoemaker has leather hinges on his hen house).

When Keney Park was laid out over an undulating surface three miles across, out of shape and impossible to see more than a small part at a time, those not used to large park work wondered how a uniform, well balanced, consistent, dignified and beautiful park could be produced under such, to them, difficult conditions.

I have had all manner of queer questions asked while the park was in process of development. The method was simple; the entire territory was laid out into one hundred foot squares, about the size of an ordinary house lot, where every bit of it could be seen at once. These squares were grouped together to form a single feature and the feature grouped into the whole; the result you all know is Keney Park. The method is simplicity itself, and yet confusing, if the entire proposition were to rise up in one's face without order or system. Park work can be measured, therefore there can be a science of park making, but no one is disturbed by the science when they enjoy Keney Park. The results only are seen.

The needs of Hartford's children are measurable, and therefore may be deduced scientifically, unknown to the child, and without disturbing anyone. By ascertaining the needs of our juvenile population such a method is not only helpful but it is the only way I now see by which it can be done.

The city is already divided into six hundred and forty-eight city blocks bounded by streets. The needs of the children in each block are easily learned; a combination into groups and groups into the whole makes the problem an easy one. There is no difficulty so far.

The needs of the children, when understood, are to be provided for, and if the provision is adequate and well balanced there is little trouble in furnishing it. When the city has done what lies within its power, a child born in Hartford would find waiting for it, opportunities for development for every year of its life; no stunted or arrested development would occur unless the cause was within the child itself. He would be

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free to live out his own individuality and guard against danger, unless of his own choice he persistently sought it.

The problem is to formulate the science of child-life in cities; to present it clearly to the people, feeling sure that if loyally done the people will respond, and if they don't respond, then there is something wrong with our presentation, or with our science.

The people to do this work, if it is to be done, are those who are gathered here tonight working in unison, adding to their numbers all those who are interested in the work, and that will include the twenty thousand mothers, and the twenty thousand fathers and the forty thousand children, and I guess most of the other twenty thousand who are living here, the largest committee ever formed in Hartford; one so large that whatever they want to have the city will try to do.

To illustrate the kind of development the child should have let us consider how we keep warm. The warmth of our bodies depends only in part upon the clothes we wear, the houses we live in and outside influences. The warmth comes from within us, for nature has given us a pump, a water circulation in our heart and arteries, a furnace in our lungs, an ash-pit door in our nostrils; the fuel is the waste of the body. Everything necessary for a first-class heating apparatus is within our bodies, and that heating apparatus will increase to supply every need, providing they are fully used, for only by use can an organ or muscle grow.

To get the best growth in our heating apparatus we must exercise in the open air, and the best time of the year is the winter, the colder the better, and the period to make this growth is before maturity, therefore, the child should be in the open air, and the city should not feel satisfied with itself even when it has provided adequate privileges for all its children to enjoy open air and pleasures for the two hot summer months. The growing child needs a chance to breathe and develop itself all the year round. Winter sports mean deep-chested, strong, hardy boys and girls. Did you ever see the picture of an Eskimo that was not thick set, large bodied, deep chested, short legged? And they are warm because their heating apparatus is large, well matured, and in working order.

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Did you ever see a person shiver more with the cold than the thin chested, long legged, spindle shanked people of the warmer climates, when they encounter the thermometer as low as thirty?

We must have our children in the open air all winters, if they are to be warm during their after years. Warmth must come from the inside, and nothing on the outside will ever take its place.

A white man once asked an Indian if he was not cold with no cover except his blanket. The Indian touched the white man's face and asked him if his face was cold. The white man said no, and the Indian responded with "Indian, face all over." A like development should be sought for every muscle of the body and mind. This is possible to bring about whenever we will. The child is here, the need is here, and the only limitations are those we put upon ourselves. There are none put upon us.

To return to our need of equipping ourselves with accurate knowledge, to illustrate the difficulties to be overcome, one of the serious difficulties is the six-tenement block and the rear tenement blocks of much greater number. Such tenements, even though the small rooms are convenient and economical to live in, and profitable to the landlord, and not altogether undesirable for grown-ups, are but a stumbling block to children, a preventation to their growth and development. I prophecy that they will become obsolete in twenty-five years, and but few will remain fifty years from now. While they are here provisions must be made by the city, at the city expense, for the recreation of the children who live in them, and as they are built mainly for profit for the owner it is no more than fair, as they impose this additional burden upon the city, that the owner should deposit a sum of money the interest of which is sufficient for the city to furnish recreation for the children who live in them.

The city requires, when a cemetery lot has perpetual care, a sum of money to be deposited, the interest of which will care for the lot. If the city requires this for the dead, why should not an equally justifiable provision be made for the little child? If that makes the rent too high, may be it would be cheaper as well as

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better to live in single houses. The single house is coming, even in our cities, and rents are going down to not over one-fifth of a man's wages. This seems impossible now, but it is coming nevertheless.

The occupation of the young is supposed to be under the guidance of the parents, but in fact, it is largely left with the child to hunt for himself, and to make his own bargains, and there he is at a disadvantage, for he cannot meet grown-ups and conditions of work with older people on an equality. The father's work does not allow him time to seek and make arrangements for his child's labor. Child labor conditions are deplorable, yet neither the child nor the father can prevent it. It is a state affair, and vocational guidance, continuation schools, industrial education, and manual training seem to be the paths the state must travel to accomplish it.

Occupational training for its young people is a community function. The exploitation of the work, the earning power of the young cannot be too severely condemned. A child must work or become stunted, but it should not be blind work. If a young person does not have something strenuous in his youth, he becomes soft and useless by the time he is forty-five. On the other hand, if every year a boy is put to hard, daily, monotonous work, before he has his growth, he will lose three work years at the other end. Therefore, looking at child labor from a purely economic point of view, for each year of boy's work, at low wages, the city loses in the end three years of men's work, at good wages.

To want "to help papa" is the beginning of the work instinct, and it comes very young, certainly by five years of age. It should be fostered, cultivated, and developed by us along these lines which the public, and especially that which the child thinks worth while, so that when he becomes of age he will have the capacity, the desire, the trained mind and muscle for work; then too, he will know how to do something very well. Present city conditions destroy this work instinct, and often leaves the boy stranded with neither education, desire, or capacity for work.

The curse of child labor, of which so much is written at present, is not that the child works, but that he is overworked

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under bad conditions without a proper balance, in view of his other physical, moral and mental needs, and that he does monotonous work which leads nowhere.

To pass laws prohibiting children's work many times means an early and a weak old age. To pass laws to prevent grinding work, under adverse conditions, and without proper balance, means a late old age and a vigorous one. To obtain a proper balance between occupation, recreation and education, with proper food, clothes and shelter, and social and civic relations is the thing to be striven for. This balance varies much with individuals, yet it is not impossible to determine and maintain.

It costs less to make a man out of a boy than it does to care for a defective man, to say nothing of his less earning power for himself. For every dollar the city saves in not doing this work, it spends two in caring for its derelicts. One measure of a city's wealth, and comfort, is the surplus that is produced over what is needed during the year of its production. A lowering of the capacity for production means a living from hand to mouth, and our modern cities are making men of that kind.

Hartford spends annually $800,000 on its schools. It is proud of the men and women who devote themselves to the education of its children. It is proud of the extensive school buildings, too. Those who have the care of our schools seem outwardly well satisfied with their workings and results. Of all persons in Hartford I am the least qualified to talk of them. My own schooling was in the most countrified of country schools, and circumstances were such that I left school at twelve, and with the exception of two winter terms, of eight weeks each, did not go again until I was nineteen; so it will be seen that I have had no experience whatever in graded schools or high schools. Yet there is something I would like to say at this time that will seem like a criticism. I heartily admit the admirable advantages of Hartford schools, but to me they seem to come short in not fostering a hunger and thirst for learning, and in not teaching children to think for themselves. It is just as natural for a child to think as it is for it to act, but if this desire is repeatedly suppressed it becomes atrophied; the elasticity is gone and study becomes exceedingly

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difficult. If suppression is long enough continued the brain becomes deadened, leathery, and almost impossible to receive new impressions. Like an old photographic plate which has been kept too long, the man's brain gets befogged, and a clear impression is no longer made upon it. Probably there are but few minds, that if they stop learning two or three years before they are twenty five, can never afterwards learn. Dr. Osler has been quoted as saying that a boy who leaves school at sixteen for factory life can seldom, if ever, learn a new language or learn to play a new instrument after he is twenty-one, and that even most college graduates lose the power of taking up new work after forty years old.

My second thought regarding education is that the city should not cease its interest in superintending the teaching of its young people until they are twenty-one years old; that every young person should be under the direction of the School Board until they are of age, unless by examination they show proficiencies and a studious mind; that vocational and industrial education should form part of their day's work. Of course, when they become of age, all official direction must cease. The city then carries them over to the voting list — at least the boys are there, or should be.

Recreation is as old as mankind,— a part of the life of every child from Cain and Abel, and yet for a city it is so new a function that we do not know what to do with it. Recreation in child life is growth; it is the child in the making.

The child's play differs with age and development; there is a normal development with each age, but a child's development may be much behind its normal age, and occasionally ahead of it. Play should be adjusted to development, however, that may differ from the age.

Play should be spontaneous, yet often under our abnormal city conditions it has to be taught and directed. When it has to be taught and directed, it is more of the nature of education than play, just so far as it is continuing and compelling.

Education is the doing of things for the sake of learning how to do them. Work is the doing of things for the sake of what is done. Recreation is the doing of things just because the child feels like doing it.

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Recreation of young people of a city of the size of Hartford takes on large proportions, when considered as a whole, for more time is spent in play than in either school or work, or both together.

The children of Hartford have at least two hundred and fifty thousand play hours every year. For one-half of these play hours at least the parents cannot furnish suitable conditions for their children's play. It is for the city to furnish that opportunity for the children. If not, the children become degraded in the same sense that they do not reach the condition they ought at the different ages, and, therefore, take a lower grade than they otherwise would.

Furthermore, the loss from inefficiency of the workmen which poorly developed children grow into is almost incalculable from the waste of work, and from the want of work, from shorter lives, and idleness and indolence. Altogether the loss to the community from a defective man which, with proper opportunities for the boy, would have made an effective man, is very great, more than what it would cost to maintain the proper recreation system.

School gymnasiums and play grounds, church gymnasiums and social centers are most excellent as far as they go, but they are essentially private, and not public, and no action or desire to make them public can succeed; from the very nature of their make-up they are not and cannot be public, no matter how earnestly and cordially the public are invited to attend them.

What would a church gymnasium do with a twelve year old girl, ragged, dirty, unkempt, lousy, with the itch and ringworms, should she appear in their midst, and with pleading eyes say: "I want to play." What would they do with a gang of half grown boys who took delight in "rough-house", and foul language and actions? What could they do but put them out? What worse could happen to those that are put out? Of course, such conditions would not be allowed on a public play ground, but the public recreation officer, if he is filling his position, is familiar with all those conditions, and is not shocked by them any more than a doctor is disturbed in the presence of disease. He knows what to do; does it; has the power to do it; they

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cannot escape him for the entire City Government, of which he is a part, is with him. He is not a Sectarian, nor Protestant; he is for all the people, all the time, everywhere. The street urchin, the child from the befouled home, the hoodlum and the gang ARE all with him; he understands them, works for them, and nothing less than a public official performing a function of the public can do this.

The city of Hartford has a deep interest in the forty thousand children within its boundaries. The city spends about a million dollars each year in their education, and most of the money of the Park Department is spent for them. Much of this expenditure goes to waste because they are not in condition to receive and assimilate the advantages provided for them, and many have retarded or arrested growth because the housing, work and recreation conditions do not allow them to develop their strength nor regain their elasticity when overspent.

To finance the Juvenile Proposition I imagine will be the least difficult part of the work, because there is a willingness on the part of the City Government and the individuals to do for and to care for its children, and because it will largely finance itself.

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CHILDREN AND DISEASE

Dr. E. K. Root

Health Commissioner of Hartford *

Dr. Root referred to the past history of the Board of Health, mentioned many improvements in the city due to its initiative, acknowledged that in some cases they were obliged to exceed the authority given them by the city, notably in the year 1899, when diphtheria and several other contagious diseases were in the city and threatening to escape control entirely. The gravity of emergency required the Board to exceed their constitutional authority and to take action which they were not legally authorized to do at that time. They stepped in and inspected schools and school children, applied restriction and instituted surveillance, which resulted in checking the spread of disease within one month, in fact practically stamped out the trouble.

"Since then the State of Connecticut has made such inspection legal under the school authorities. Hartford was the second city in the United States to institute such inspection in the schools. In spite of all the precautions now existing in the city, Hartford is today facing a very grave danger. In event of an epidemic on the spread of a contagious disease, the city is at present without any adequate provision for such a condition. It could only be handled by taking very extraordinary measures. A city hospital for contagious diseases is an immediate necessity. The Hartford Hospital, which is a private institution, provides an isolated building as a contagious ward. But it was built years ago, and was too small even then. Modern science has introduced greatly improved methods of building for the housing and handling of contagious diseases. And in any case, the Hartford Hospital would be unable to handle all the cases which the city is bound to provide for.

* The Commission was unable to secure a complete verbatim report of Dr. Root's address.

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This winter there has been enough scarlet fever and diphtheria in the city to make it clear that what it is reasonable to expect, we ought to be prudent enough to provide for.

The city ought to erect a contagious hospital of its own. It ought also to erect one with all the modern improvements and appliances, not just walls holding ordinary rooms, with plastered walls to retain contagion.

The city should make complete and separate provision for children in this hospital. And for adults and children alike, most adequate and complete provision for fresh air — not just opening the windows, no matter how large or easily accessible they may be; there should not only be large wide piazzas in every place possible, but there should be also tents and pavilions provided, and the patients all kept in the open air as much as possible. Every provision should be made for being in the open air — not only is it nature's most powerful disinfectant, but in connection with such provision, the terror of the complete isolation, and the consequent loneliness is almost completely done away with. Relations and friends can see each other, and can exchange friendly greetings without harm to any one.

The Board of Health cannot be expected to accomplish its work of keeping Hartford citizens alive and well if it is not provided with the necessary means."

Dr. Root also touched upon the work of the Board of Health in connection with the Tenement House Law, its usefulness and some of the difficulties belonging to enforcing it. He also referred to its work in caring for the health of the children and urged the necessity of more care for the health of school children, and more careful physical inspection and attention to physical defects as well as to passing diseases.

NOTE BY THE EDITOR: The common council instructed the mayor to include in his budget, which was laid before the citizens of Hartford in April, 1913, an appropriation of $100,000 for the erection of a contagious hospital for the city of Hartford, and voted.

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CHILD WELFARE IN HARTFORD SCHOOLS

L. H. STANLEY

Principal of the Wadsworth School District

I have been requested to tell in the ten minutes allotted to me something of what the Hartford schools are doing for the welfare of the child.

Every branch of school work may be properly classed under this head, but I will only speak of what the schools are doing for the health of the children and what is being accomplished directly or indirectly by the school in providing interesting and helpful recreation for the boys and girls out of school hours.

Each public school is visited once each week by a physician from the board of health, whose chief duty is the detection of contagious diseases. All children suspected by the principal or teachers of suffering from some contagious or infectious disease, and all children who have returned to school after having been absent on account of illness from unknown causes, are examined by the inspector.

Physical examination for the non-contagious physical defects are made by the physical directors of each district. Records of these examinations are kept on file, and a notice of the apparent defects are sent to the home. Parents are advised to consult their family physician.

Practically every district in the city is providing its pupils with a regular course in physical instruction given under the direction of a competent instructor.

Much attention is given to the proper ventilation and heating of our school buildings. In schools where there is no forced ventilation, care is taken that the air in classrooms is kept pure by frequently opening the windows. Every effort is made to keep the temperature of the schoolroom at 68 degrees, as it has been found that pupils do better work in a moderately cool room.

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Buildings are swept daily. Schools not equipped with vacuum cleaners have well oiled floors. The moist dust cloth has long since taken the place of the feather duster. For a number of years the drinking fountains and individual towels have been in use in our schools.

Hartford is one of the few cities in New England that has a Public School Athletic League. Organized in the spring of 1910 by the grammar school principals, who constitute the board of governors, this league has conducted three successful seasons of baseball, and has given each year a monster field day. The baseball games have all been played in the public parks in different parts of the city. Twelve schools have been represented in the league, and a regular schedule of games has been played. The first outdoor meet was held in June, 1910, at Trinity field, and about five hundred pupils competed in the different events. In 1911 the meet was held at Charter Oak Park, with a large increase in the number of entries and with a much larger attendance. The 1912 meet was held in the same field; over 1200 boys and girls competed in the various contests. Parents and friends of the children have shown an interest in these annual out-door gatherings. The estimated attendance at the last meet was 10,000 persons.

Three park festivals were given last year by different school districts. The Northwest, Arsenal, and Henry Barnard districts combined in giving a park fete for girls and boys at Keney Park. The Washington Street School conducted a very successful May day festival in Pope Park. In the early part of June the West Middle and South School districts gave a June festival at the golf grounds in Goodwin Park. Fourteen hundred girls took part in this fete, which was the first time that anything of its kind had been given in Hartford. The entire program consisted of folk dances, the music of which has to be arranged for the band.

With the exception of the park festivals, practically nothing has been done along the lines of athletics for girls. Hartford should have a girls' branch of the Public School Athletic League, organized by Hartford ladies, and supported by private contributions. Such a branch could, I believe, work out the great problem of athletics for girls.

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In many of the larger cities of this country much is being done to further athletics in the elementary schools. New York City has two leagues, one for boys, the other for girls; both are supported by private contributions. The city of Newark has recently provided a twenty-acre fully equipped athletic field worth $75,000, while in Tacoma, Washington, a magnificent stadium has been constructed for the public school boys at a cost of $80,000, a large part of which was donated by business men.

Mr. Lee F. Hanmar, associated director of the department of Child Hygiene of the Russell Sage Foundation, says in summing up the effect of systematic sports upon the school:

"In cities where this work has been organized and given a fair test, school authorities are practically unanimous in saying that:

First — Class work is better.

Second — The health of the school children is improved.

Third — A wholesome spirit is developed.

Fourth — There is less trouble about discipline owing to the closer relations and better understanding between the pupils and the teachers."

What has already been accomplished by the schools, and the Public School Athletic League of our city should only be the beginning of greater things.

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CHILDREN AND THE PUBLIC LIBRARY

Miss Caroline E. Hewins

Librarian of the Hartford Public Library

Mr. Clark, our Treasurer for many years, and still of our Board of Directors, would have given you a much more brilliant and forceful presentation of the work of the Hartford Public Library with children than I can. (While I was writing this he came to ask me not to forget that when he was a boy, before 1840, there was a sign at the entrance of the old Young Men's Institute, "Children under twelve not admitted without parent or guardian," and if one spoke above a whisper, he was put out by the librarian; and that now any child who can write his name and bring father or mother to endorse his signature may take books home.)

When the library was made free, in 1892, the children of the city, some of whom had already used its books by arrangement with one or two school districts, came in large numbers to enjoy its privileges, about twenty-five per cent. of the books circulating being taken by children under fourteen, who were so much in evidence that the library was sometimes spoken of as a kindergarten.

Under these conditions and with the Sunday crowding of the reference-room by the children who came to read story books, in the proportion of fifty-five to two adults, as happened one day when we had a photograph taken for publication, it was impossible to give our boys and girls the privileges that other children were receiving in attractive and well-equipped children's rooms all over the country. For twelve years, we struggled to give them their just dues. At last, in 1904, the house next to the library and belonging to the Athenaeum, was vacated by the Hartford Club. Towards the end of that year we came into possession of three bright, sunny rooms on the ground floor of the building — one for the children's reading room, another,

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made practically a part of it by enlarging the doorway, for the books, and a third for storing school libraries.

The school library work has grown year by year, not only in books to be used by teachers, but in libraries of fifty volumes to a room, sent to the district schools for the school year. Our first children's librarian was employed for a part of the day in the main library, but the school work increased so fast that she was soon obliged to give her whole time to the children's room and school visiting. Her successor has been a teacher in the district, evening, and vacation schools, and so brings to her work a large acquaintance among children of all sorts and conditions, and among the teachers also.

The room is open on school days from 3:30 till 6:00 on four afternoons in the week, till 8 on Wednesdays, and from 9 A. M. till 8:30 P. M. on Saturdays. In vacation and on holidays it is open all day, and on Sunday afternoons from 2 to 6 for reading. Last year 571 children's book cards were issued, and the year before 508. This means that about 1500 children are using cards in the room, and we circulated there 42,000 books in the last library year. This, however, does not represent the whole use of the library by the children, for we send books for circulation to the Probation Office, outlying public schools, and the Dwight Branch on the grounds of the New Park Avenue School. The circulation last year in these branches was 24,000. In addition, books were sent to parochial schools for use in the school rooms, the Spruce Street Settlement and the Watkinson Farm School, but there are many children of school age in Hartford who know nothing of the Library, and who should be provided for by branches in parts of the city more than three-quarters of a mile from the City Hall.

Before the children can take out books from the library to use at home, the father, mother, or guardian of the child must come to the Library and endorse the child's application for a card. Sometimes, a kind-hearted teacher comes with a string of children whom she wishes to have take library books, but when she is told that her endorsement means promising to pay for the loss or damage of books, she is willing to defer taking out library cards for her charges, and prefers to leave the responsibility where it belongs, to parents. If the parents

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cannot write, we accept a mark, and if they can write only in Yiddish, we always have someone on the staff who can read the signatures.

Children usually say that their fathers work all the time — 1 A. M. till midnight, probably, and their mothers never go out-of-doors. We say, "Your mother goes to Poli's sometimes, doesn't she?" "Yes'm." "Then ask her to come here next time she is going there." In the case of one boy who said that his mother never went anywhere, I asked, "Who goes up-street to buy your shoes?" and got for an answer "We get them from Dr. Green."

The children write their names in a book in the room, after reading the line at the top of the page, "I will try to take good care of Public Library Books." They are required to have clean hands while they are in the reading room and we have a basin on hand with a cleansing powder instead of soap, cotton waste instead of towels, and a hygienic drinking fountain.

About 75 per cent. of the children are from the East Side. This is only natural because it is so near.

The rules enforced in the room are few; clean hands, no gum chewing, care in handling books, and reasonable quiet being all worth mentioning — except the strict exaction of fines. The room is a training-school in the care of public property and in civic righteousness, and as the East Side child usually has more pennies to spend than any one here at the same age, it is not severity to insist that books kept overtime must be paid for. We use the fine money for wood for open fires for Saturdays and Sundays, for cases for our choicer books, or for frames for pictures, and tell the children to what use the money collected by fines is put. Besides the children who take books home, there are others who come in only on Sunday afternoon, and if asked their names give the first they can think of. They do not care enough about reading to leave their own signature and bring their father or mother. They have not learned to sit quietly and read. Their first lesson in the reading room is that if they take a book from the open shelves they must not change it till the cuckoo in the clock sings. They lack power of attention and concentration, and interest in books, and often stray in from curiosity or to see

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what mischief they can do. They often bring children not old enough to look quietly at pictures, and as the room is not a kindergarten or a reformatory, but a place where children who like to read quietly can spend a pleasant afternoon, their stay is unusually short. We often have from 100 to 125 children in the room on a winter Sunday afternoon, not all at once, however, for it will not hold more than sixty. When that number is occupying the chairs, the work of whoever is at the desk is much like that of a teacher keeping study hours in an ungraded school. Indeed, a children's librarian has been defined as a combination of a mother, a teacher, and a policeman.

In the summer vacation, the children from the older grades of the public and parochial schools are invited to come one afternoon in the week to listen to a story or a chapter or two from a book that it is hoped they will like well enough to finish for themselves. Sometimes we are fortunate enough to have a visitor who tells a story. One visitor was an army nurse in the Civil War, and lived in the White House for several weeks, taking care of Tad Lincoln through a fever; another gave a most interesting talk on lace, and showed the process of lace-making; a third described the life of Japanese children as she had seen it when living for months in the family of a Japanese university professor; another told of her visit to Alhambra. A few weeks ago John Burroughs visited the room unexpectedly, and it happened when the children were asked "Who has read Squirrels and Fur-bearers?" a boy close to him held it up in his hand.

Through the winter and spring a story is read every Saturday afternoon in the room, once the Art Society's studio, now used as a storehouse for our school libraries, the former small storeroom being a reading and study room for the older boys and girls.

There are, according to the School Visitor's report, about 24,000 children of school age in the city. By our estimate, not one-tenth of the children under fourteen have ever registered at the Public Library. Probably about the same number are taking books home from the schoolroom libraries, but eighty per cent. are still unaccounted for. Of course, there are many little children in the kindergarten and first and second

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grades who cannot write their names, read easily, or use books carefully, but from the third grade up, children may be admitted to full library privileges. The teachers do not recommend books being taken home from the schools by children below that age.

It is impossible, for reasons already stated, to keep statistics of children using the Boys' and Girls' Room for reading only, as they are unwilling to give their names or residence, and if asked every time they come some stop coming altogether.

What the library needs is branches in outlying parts of the city, with rooms for children. The Dwight branch, in Grace Street, circulates about 25% of its books among them, but the reading room is open only in the evening.

There should be branches near the Barbour Street entrance to Keney Park, in the Blue Hills district, near the Campfield Monument, near the Southwest School, and not far from the new streets near the Wilson Street School. Not until all the children beyond the three-quarter mile radius from the City Hall have library privileges, will the disadvantages under which many of them now are, of being several years behind other children in general information and ability to handle books, be removed.

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INDUSTRIAL EDUCATION

CHARLES B. COOK

Manager Royal Typewriter Co.

"Many of our manufacturers throughout the country who are engaged in lines requiring intelligent and skilled workmen realize that we need a plan of Industrial Education for the boys of the country. That it must be extremely practical to be successful, is the judgment of the manufacturers, leading educators, and workers.

The majority of our boys are always to be producers in industry, and should be fitted to be better workmen and wage earners, as well as better citizens."

Mr. Cook then cited the stupendous figures of the productions and value of the pig-iron and steel industries, both raw material and finished products, which is largely produced by men who left school at an early age, and being without training tried first one job and then another, sometimes finding the job for which they were fitted and more often not, causing much waste energy. He mentioned the many products of which Hartford is justly proud, and then emphasized the fact that skilled workmen are becoming scarcer due to the size of factories and the need of specialization, and they can only be made today by vocational schools, where the fundamental principles of their future work is taught; yet the average boy of poor parents in need of his wages, must work without considering what future work his job is fitting him for. Mr. Cook commented on the very slight proportion of children who use the high school (20%) and who pass the eighth grade (30%) and then continued: "The state owes an education to the vast majority of boys who are compelled to leave school early. Not the classic and academic course only, but a vocational course. Education in the older days was for the classes only. Today it is for the masses, free as the light and air we live in, but the cultural features of education have not adjusted themselves

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to the wants of the masses. After the masses commenced going to free schools a loud protest was made in many countries by them that the education did not give to them what they needed most,— an education of the mind combined with the training of the hand and the eye, which fitted them with an elementary knowledge to meet the problems, and to earn better wages by the efficiency gained by this education. In my opinion the training should commence in our Grammar Schools when the boy is about ten years of age. At that age the boy can use the ordinary mechanical tools in his hands. About one hour a day under a competent instructor should be given. Then by the time the boy is fourteen years of age, he will have had instruction to enable him to use at least some intelligence in the selection of his future work and if the boy is of the average ability and industrious, he will, as stated before, be qualified with the knowledge obtained to enter his daily work, equipped with the elementary requirements. Vocation guidance does not mean helping boys and girls to find work, but to find the kind of work they are best fitted for.

Many employers have expressed themselves to me regarding the ignorance displayed by the average boy applying for work. He lacks the mental stimulus and quickness; when he secures the first job he seeks there is no thought as to whether he is fitted for the work. The work may not appeal to him; there is no incentive erected within himself to do better; he thinks bitterly how fortunate some other boy is in having a job which he feels he could do better at; thus the boy is compelled to put in many, many months before he finds what he is best fitted for.

I think we all realize that the greater number of boys who are properly placed at work, the greater number of successes there will be; not only that, but the boys look upon the world with different eyes and they have the incentive to continually do better. We will have less of the dissatisfied old young men which all employers know of."

Mr. Cook also brought out very clearly the disadvantages under which the American youth is laboring as compared with the foreign boys, especially the German, in acquiring the fun-

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damental principles required in their future vocations. He continued saying:

"A new relationship must be established between the factories and stores, and the industrial schools that will be established. We manufacturers, must in a measure, accommodate our shops to the use and purpose of the industrial schools, and the schools must be adjusted to the requirements of the factories. Only in this way will be the perfection of practical accomplishment. We all realize that an efficient workman cannot be made in school, nor can he be made without a school. In our shops is sufficient machinery for the education in practice of all boys of the land. The saving to the school will be considerable, as the investment for machinery will be very small and thus the cost of such education will be comparatively small. On the other hand, the instruction of the school in the science and art of industry will make every child at work and men, too, understand the relationship of the several tasks to the whole of the industry, and the way of advancement from the task at hand to the highest position that their developing faculties will entitle them. This will help in a great measure to relieve the present friction and misunderstanding, and to develop an intelligent sense of mutual dependence between workers and managers. We manufacturers spend time in looking over our machinery, designing new and discarding old. We spend time in investigating the requirements of old and new tools; the methods and systems in connection with our business receives a great deal of attention; detail after detail is laid before us and decisions are made for the betterment of the business, but how about the human element of our shop? Is this man or that man a good investment for the company we represent? Does this man measure up to a standard of efficiency the same as we require of our machines? Does he know the principles underlying the work he is doing? Is he mentally equipped? Do we realize that his training is his tools, his stock in trade? I am afraid that many of us are lax in this phase of the problem, and are liable to consider the human element of our shops an unknown quantity.

Due to the co-operation afforded the manufacturers of Hartford by the High School Committee, we have started what is

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termed a Continuation School, and some of the manufacturers have selected their brightest boys and are sending them to the High School two afternoons per week with pay. A weekly time check is sent by the school to the factories, so that the boys may be checked on pay-roll; they are docked for being late or absent. A quarterly report is sent showing the standing of the boy and what has been accomplished.

In the plant I represent we have seven boys going to the Continuation School, and we have about seventeen on the waiting list. We have notices posted in prominent places throughout the plant, showing that these boys were selected by reason of their ability, personal conduct, order and attention to their work. We state that all boys are eligible provided they come up to our requirements, and upon their names being presented to the company they will be investigated and a position on the waiting list will be given them.

The High School has facilities for some seventy-five boys. Such lessons as drawing, freehand and elements of mechanical drawing, blue prints and designs, mathematics, a little algebra, science, accounting, a little English, civics, and theory of shop practice. The value of this course combined with actual factory practice must be apparent to all.

Industrial Education embracing all the leading trades of the country will before many years be a part of our regular educational system. The youth of the land demands it. Thousands of our boys will be instructed in the fundamental principles of their future work.

Industrial education will bring you a citizen who understands duty, responsibility, discipline, work, order, and method; a better workman means better homes and a better community.

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CO-ORDINATION AND ITS VALUES

HARRY E. ETTELSON

Ladies and Gentlemen: I have been asked to speak about Co-Ordination and its Values. This is a rather big subject to crowd into a ten minutes' talk, for the principle of Co-Ordination is co-extensive with the Universe. In fact, there could be no Universe at all, if, amid the diversity of elements and organisms, there were no correlation of forces, no Unity of Natural Law, in a word, no Co-Ordination. . . .

Co-Ordination, then, of some kind and to some degree is inevitable, no matter what be the sphere of activity or interest. . . .

If thus Co-Ordination is necessary for a mere machine, how much more necessary is it for the complex activities of Society, since Society is a vital pulsating Organism, and its different institutions and agencies are related to it as members of the body, and lack of Co-Ordination between them means weakness or disease to the body politic, as is so graphically set forth in the old fable of the "Body and its Members." "Each is needed by every one; there is nothing good or fair alone."

So much, ladies and gentlemen, for the general principle of Co-Ordination. Let me now make specific application of its values for the purposes of this Conference.

The first value of Co-Ordination is that it prevents Duplication with all its attendant evils. Oh, the sinful waste in money, in time, in energy, in the machinery of organization, when, as is only too often the case, we have the different Social Service agencies, each going its own way without checking off its work by reference to the work of other similar agencies, thus unnecessarily doing over again work already done. All this apart from the rivalries and conflicts that must result. . .

The second value of Co-Ordination is that, pioneer-like, it opens up new areas of needed activities. When the organizations get together and survey the whole ground, they find not only, as above, that some fields are over-occupied by super-

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fluous agencies, but that all the while other promising fields are lying altogether neglected and fallow. . . . This, if I may make a personal reference, was practically our experience when we united the local Jewish Charities. It was then we found out to our surprise and dismay how many needed things we had hitherto not been doing at all, what large areas of constructive relief work there were of which, until then, we had been unaware. . . .

The third value of Co-Ordination is the strength that comes from Union as such. . . . The strength that we will gain will be not merely the strength of the addition of units, as in arithmetic, nay, but the strength of the combination of elements, as in chemistry. Hydrogen and oxygen, fused by the electric spark, give us not hydrogen *plus* oxygen, but water. So if we co-ordinate the activities of the Juvenile Commission, of the Park Board, of the Schools, of the Library we get not merely the one plus the other,— no, but, fused by the electric spark of a noble purpose in common we get a vital, energetic Social Service Organism. Joining forces we are all-powerful. Our combined influence can get needed measures passed by the authorities when individually we would be impotent; our co-ordinate resources can institute undertakings beyond the possibilities of our separate means.

There is a fourth and final value of Co-Ordination, the supreme one, the one that in itself is all-sufficient. I can bring it out best by a little story. A fond mother once brought home a pretty Maltese kitten as a pet for her boy and girl. She thought she'd avoid difficulty if she clearly laid down the rules of joint partnership. "Mary," said she, "the head of the kitten and the upper part of its body belong to you, and you, Johnny, own the lower half and the tail." The children were delighted and the mother left, well pleased with her cleverness. But she was brought back to the nursery in a hurry by sounds of dreadful wrangling. "Mercy me! what's the trouble, children," she anxiously inquired. "Mama," blubbered Mary, "make Johnny stop hurting my part of the kitty." "'Taint so," stoutly maintained Johnny, "I ain't touched her part. I only pulled its tail and that's mine." "W-w-w-ell," wailed poor little Mary, "but he made my part holler." Here, ladies

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and gentlemen, we have the whole gist of the matter. Society is a living flesh and blood organism and you cannot, so to speak, pull the tail without the head hollering; you cannot touch any part without having the sympathetic nerve system set up a response in the other parts. We are learning more and more today that no social phenomenon stands by itself; that all are closely interrelated; that in order adequately to understand and meet any of the problems you have to meet and grapple with all the problems.

There is no need to go for illustrations beyond some of the familiar facts of Child Welfare work. We used, for example, to think that the child who wasn't up in his studies was either stupid or lazy. The school authorities, however, called to the Health Board and lo! we found out about adenoids and bad eyes and underfeeding as causes, and we revised our methods accordingly. We used to deal with the delinquent youth as a depraved specimen of humanity; but the Juvenile Court called in the Settlement Worker and the Park Commissioner and it was learned that we simply had a healthy boy to deal with, whose abundant energies and vitality, the gift of Mother Nature, were seeking their normal outlet and that what was needed was simply more Recreation Centers and Playgrounds. We used to think of unemployment and poverty as due to mere shiftlessness and idleness, but the Charity Organization called in the Superintendent of Factories and we learned that what we needed was trade and continuation schools and vocational training. We used to think the so-called Social Evil the expression of animal lust, but the Social Worker and Tenement Investigator were called in and we found out how the evil was related, on the one hand, to the pitifully small wages paid in department store and factory, and, on the other hand, to family quarters congested beyond the degree of decency. And so we might go on almost indefinitely and show how the simplest, and seemingly most detached phenomenon is at bottom related to other phenomena and how, in our complex social organism, we cannot solve any one problem without some reference to the others. Our Superintendent of Schools cannot do his full duty to the schools as such without co-ordination with the Park Commissioner, the Health

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Board, the Library, the Juvenile Court, the Churches, the Settlement, etc., each of which in turn needs, for its work, co-ordination with all the other agencies. This is the justification of this Conference of Child-Welfare, and those who have arranged it deserve the hearty appreciation and thanks, and a full measure of success for their efforts.

It is high time for me to close and I can do no better in gathering up my thought than to compare Co-Ordination to the thumb on the hand. It was a significant moment in the history of Evolution when the thumb was differentiated on the primitive paw. Then began the unfolding of those powers and possibilities which Helen Keller so eloquently apotheosizes in her recent remarkable essay on "The Hand of the World." It is the thumb that makes possible the use of the other fingers and gives to the hand its holding, handling powers. Even so does Co-Ordination serve in making the different agencies "handy" in the higher sense. Let us hope that this Conference will prove such a thumb to the fingers, as represented by the different organizations, and that together they will be as a hand — a working hand, a helping hand — the hand, indeed, of fellowship and Social Service.

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THE PARKS OF HARTFORD

CHARLES E. GROSS, PARK COMMISSIONER

Mr. Gross in a happy vein recalled the early beginning of Hartford's Park System, at first entirely devoted to show and not to use. Continuing he said: "Until the reorganization of the Park Board in 1895, no facilities for sport had been provided. All development for public recreation has come, therefore, during the last eighteen years.

The first step towards such park development was taken in November, 1894, when Col. Albert A. Pope offered about seventy acres of land to the city for a pleasure ground where trespassing on the grass should not be forbidden.

I have understood that to Hartford has been given the credit of being the first city to banish from its parks all such signs as "Keep off the Grass," and I have always taken pride in the fact that I had the honor of assisting Col. Pope in the formulation of his statement of what a public park should be.

In our park report of April 30, 1897, there appeared for the first time reference to "tennis courts," "ball grounds," "cycle courses," "play grounds," "boat houses," and "boat sailing."

Fifteen years later — the year 1912 — has shown to what extent this development has been carried.

Last summer we had 24 ball diamonds properly constructed, of which 14 were in Colt Park, the easiest of access from the business section of our city. 1,570 permits were granted for baseball games, which were attended by 151,900 people.

We had six tennis courts in Pope Park and two in Colt Park. There were five children's playgrounds in our parks which gave untold happiness to thousands of children. Two of these were in Pope Park, and one each in Bushnell, Colt, and Riverside parks.

There were 190 little school gardens in Colt Park and 92 in Riverside Park, and many more were needed. An outdoor gymnasium in Pope Park was largely attended every day.

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Any citizen who visited the field gymnasium in Colt Park on any pleasant Sunday afternoon last fall, and saw the children, from 700 to 1000 in number, in orderly and happy recreation under the fatherly eye and with the kind assistance of Policeman Fagan, would, I think, have readily subscribed to the statement of Rev. Edward Everett Hale when he visited the first children's playground in Riverside Park — that it seemed to him as if a bit of Heaven had there been transplanted.

A great work for the good and happiness of the little ones was done also by the Juvenile Commission last year in connection with the ceaseless activities of Mr. Parker and Mr. Weaver in the playgrounds in the congested districts. I trust these scattered playgrounds will be continued and extended, but in my opinion they must be established on a legal basis to be successful, and not experimented with through dual authority with no definite responsibility, as happened last summer.

I am personally convinced of the correctness of two conclusions to which the Playground and Recreation Association of America has come, and these are:

That privately given playgrounds cannot attract boys to the same extent that public playgrounds do, and the other is that playgrounds without supervision soon become a nuisance and have to be abandoned."

Mr. Gross commented on the gain to Hartford's citizens, both young and old, resulting from free use of the parks. He also expressed his hope as an individual that the legislature would alter the present Sunday law so as to grant to the Park Commissioners of any city or town, the right to permit concerts and also certain athletic sports to be engaged in between the hours of two o'clock and sunset on Sunday afternoons, which shall be entirely free and conducted under rules designed to secure quiet and orderly conduct in such places as will not disturb the reasonable comfort, quiet and peace of the other citizens.

"I believe that there are places in Riverside, Goodwin, Pope, Colt, and Rocky Ridge parks where quiet and orderly athletic sports can be engaged in on Sunday afternoons by those who deem it proper to do so, without in any way, or to any de-

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gree disturbing the peace and quiet of the day, to which I and others claim we are entitled. With such a limited amendment to our present statute these good results must follow:

1. Every town will establish such a park.

2. Those persons who are confined during the week will receive an opportunity for out-door exercise on Sunday in an orderly and quiet way.

3. The youth will be educated to know that there are a number of accomplishments that are better than mere noise.

4. Such selected playgrounds will fast tend to put a stop to promiscuous breaches of the peace on Sunday.

I have not submitted these suggestions to my associates on the Board. My own term will expire on May 1st next, so the personal element is absent, but I am persuaded, however, by my knowledge of the temperament of the other commissioners and their constant, active endeavors to serve their fellow-men and the men who are to be — so far as the Council permits — that they will gladly execute any such trust which the Legislature may commit to them.

If one of the results of this meeting shall be the obtaining of such an authority by the Board of Park Commissioners, I shall be greatly pleased."

Rev. Dr. R. H. Potter

Member of the Juvenile Commission

I desire first to emphasize certain matters which have been presented to us by the preceding speakers, . . . which call for some immediate action on the part of all who, like the members of this conference, are earnestly concerned for the welfare of the children of this city.

Those are first, the securing of a hospital for the treatment of contagious diseases. . . .

Second, the amending of the city charter by the Legislature so as to give to the Board of School Visitors the power to assume the conduct of the open-air school for delicate children.

Third, the amending of the charter by the Legislature so as

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to give to the Board of School Visitors the power to undertake the work of vocational guidance.

Fourth, the amending the charter of the city so as to give to the Board of Park Commissioners the right to undertake the conduct of small playgrounds on other than city property, and this ought to include, it seems to me, sufficient power granted to the Park Board to establish and conduct as soon as may be practicable a bureau of recreation which shall be able to assume leadership in the guidance of the recreation of children throughout the city. In this connection I would remark that I personally agree with Mr. Gross in the suggestion he has made tonight for the granting of opportunity for recreation in more organized forms upon the public parks on Sundays. I think his proposal is the most hopeful that has yet been made to meet the need of which all of us are increasingly conscious in this matter.

In behalf of the Juvenile Commission I would ask the interest and support and co-operation of this group of people interested in the welfare of children in our city as the Commission seeks to gather information concerning the needs of children by seeking to know precisely what are the conditions under which they now play, and work, and live. Without the co-operation of all who are here represented, as well as the generous support and provisions of the city itself in providing funds to meet the expenses of such investigation, this work cannot be done in a way large enough or broad enough to effect permanent and hopeful results.

I must first speak by way of definition. I find that even among those who are responsibly connected with the city government there is lack of understanding as to what is the work which the Juvenile Commission exists to do. I would remind you that the commission, by the terms of the city charter in the amendment which permitted the mayor to appoint a Juvenile Commission, is instructed and empowered "to investigate and inquire into all questions relating to the welfare of the children of the city, to collect and compile statistics or other information relating to child life within the city and to recommend legislation in the interest of children." You will

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observe by these terms the commission has no power to undertake executive work in the city. Its business is to gather information, to study the meaning of such information, and formulate the result of such study, and to make recommendations based upon this investigation and study. These recommendations may be addressed to the State Legislature, if they involve change in the law of the state, to the Common Council, if they call for action by that body in the form either of ordinances or appropriations or directions to city departments, or to the various departments of the city which are empowered to do the work of the city in relation to its juvenile life, as for instance, the School Board, the Park Board, or the Board of Health. Whatever the Commission decides ought to be done, it must endeavor to persuade some one of these various bodies to do. It cannot undertake to do the task itself. This limitation of the powers of the Commission should be in the minds of all those interested in child welfare that they may know for what purpose the aid of the Commission may be sought, and may appreciate the task of the Commission in securing the accomplishment of the things that need to be done.

Let me also say that the Commission will eagerly welcome criticism or suggestions concerning things which it does or things which it ought to do, or methods of prosecuting its work from all those who have a care for the welfare of the Children of Hartford.

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APPENDIX B.

CHILD WELFARE
List of references to material in the Connecticut State Library, January 15, 1913

Books and pamphlets marked H. P. L. may also be found in the Hartford Public Library.

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APPENDIX C

List of Organizations Interested in or Connected With Child Welfare in Hartford.

The Commission feels that this list is by no means complete, and therefore requests that all who know of other organizations of this nature will report them to the secretary. The Commission wishes to keep for reference the names of all such organizations together with a short statement of the scope of their work so that it may be able to answer various inquiries which come to it.

Name.	Address.
Board of Health, Dr. Chas. P. Botsford, Supt.	223 Asylum Street
Park Board, Geo. A. Parker, Supt.	49 Pearl Street
Public Schools, Mr. Thos. Weaver, Supt.	36 Pearl Street
Diocesan Schools, Rev. Wm. J. Fitzgerald, Supt.	340 Collins Street
Hartford Public Library, Miss Caroline M. Hewins, Librarian	624 Main Street
State Board of Education, Mr. Chas. D. Hine, Secy.	State Capitol
Outdoor School, Miss Clara Pausch	15 Hurlburt Street
Hartford Orphan Asylum, Rev. Foster R. Waite, Supt.	171 Putnam Street
Probation Officers, Mr. F. A. Arnold, Miss Gauthier	45 Temple Street
School for Backward Children, Miss Sarah Holbrook, Visitor	249 High Street
American School for the Deaf, Mr. Job Williams, Principal	690 Asylum Avenue
Connecticut Institute for the Blind, Mr. Geo. H. Marshall, Supt.	10 Holcombe Street
Hartford Hospital, Dr. A. W. Smith, Supt.	20 So. Hudson St.

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Name.	Address.
St. Francis Hospital	360 Collins Street
Charity Commissioners, Mr. H. C. Bailey, Clerk	222 Pearl Street
City Hospital, Mr. Wm. W. Stillman, Supt.	2 Holcombe St.
Hartford Social Settlement, Miss Fuller, Head Worker	15 North Street
Good Will Club, Miss Mary Hall, President	Keney Tower Sq.
Visiting Nurse Assn., Miss M. J. Wilkinson, Supt.	34 Charter Oak Ave.
Union for Home Work, Mrs. Elizabeth S. Ayres, Supt.	239 Market Street
Open Hearth, Mr. John H. Jackson	73 Grove Street
Salvation Army, Maj. M. L. Simonson	26 State Street
Connecticut Humane Society, Miss M. E. J. Lally, Secy.	55 Prospect Street
Hartford Dispensary,	56 Winthrop Street
Hartford Dental Assn.	125 Trumbull St.
Connecticut Children's Aid Society.	
Watkinson Farm School, Mr. Edwin B. Smead, Supt.	1100 Albany Ave.
City Missionary Society, Mr. Harnish and Miss Bartlett,	50 Village Street
Babies' Hospital, Milk Station, Miss H. Inde Albaugh, Nurse	227 Market Street
Women's Aid Society, Miss Amanda M. Tufts, Matron	1 Pavilion Street
Shelter for Women, Miss M. J. Halstead, Matron	95 Ann Street
College Settlement, Miss Fiske, Head Worker	25 Spruce Street
Charity Organization Society, Mr. David I. Green, Supt.	133 Trumbull Street
Handicraft Schools of Hartford, Dr. J. Pierpont Davis, Secy.	
Conn. George Junior Republic, Miss Lucy Taintor, Secy.	129 Washington St.

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Name.	Address.
Young Men's Christian Assn., Mr. Geo. C. Hubert, Secy.	315 Pearl Street
State Sunday School Assn., Rev. Wallace I. Woodin	125 Trumbull Street
St. James Orphan Asylum,	93 Church Street
Women's Christian Association, Miss Emily H. Beecher, Gen. Secy.	54 Church Street
Jewish Religious School Bureau, Rabbi H. W. Ettelson,	136 Homestead Ave.
Hartford Council for Child Welfare, Mrs. Isaac Kingsbury, Secy.	4 Atwood Street
Hartford Club for Child Welfare, Miss Marion Perkins, Secy.	863 Asylum Avenue
Principal's Club,	
Hartford School of Religious Pedagogy, Prof. G. E. Dawson	1566 Broad Street
Young German-American Asso., Mr. Henry Sugermeyer, Fin. Secy.	720 Main Street
Young Italian-American Asso., Mr. V. G. Perrone, Secy.	881 Main Street
Committee on Vocational Guidance, Miss Mary Welles, Secy.	Newington, Conn.
Social Workers, Miss Helen Barry, Secy.	State Capitol
Hartford Secy. for Prevention of Tuberculosis, Dr. Henry F. Stoll	75 Pratt Street
State Tuberculosis Commission, Mr. John F. Allen, Director	State Capitol
Charitable Society of Hartford, Mr. Arthur Perkins, Secy.	95 Niles Street
Consumers' League of Hartford, Miss Stone, Secy.	40 Allen Place
Hartford Federation of Churches, Boys Work Committee, Rev. C. C. Kennedy, Chairman	Center Church House
United Jewish Charities, Mr. Louis R. Price, Secy.	P. O. Box. 684
Queen's Daughters, Miss Hannah Bailey	238 Laurel Street
Ladies of Charity, Mrs. M. A. Bailey, Pres.	221 Collins Street

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Name.	Address.
Mutual Aid Society of St. Patrick's Ch., Mrs. M. H. Gunshannon, Pres.	57 Church Street
Women's Christian Temperance Union, Mrs. M. G. Purinton, Pres.	Center Church House
St. Agnes' Guild, Mrs. John W. Coogan	132 Woodland Street

STATISTICS OF HARTFORD ORGANIZATIONS AS TO THE NUMBER OF HARTFORD CHILDREN CARED FOR THIS PAST YEAR.*

Organization	0-6	6-14	14-16	16-21	Total under 21 yrs.
American School of the Deaf	..	7	2	4	13
Babies Hospital Milk Station	175	..	..	..	175
Board of Health	0-1	1-5	5-10	10-20	
Deaths	392	151	38	61	642
Boy Scouts	..	..	..	..	300
City Missionary Socy. Village St. Mission	83	145	33	7	268
College Settlement	17	65	26	..	108
Conn. Children's Aid Socy.	48	19	8	8	83
Home for Crippled Children	4	14	5	4	27
			6-16	10-20	
Conn. Institute for Blind	..	..	34	4	38
			8-21		
Good Will Club					
Regular Members	..	..	991		
Others	..	..	600	..	1,591

*NOTE. The most noticeable fact in this table is the lack of provision made for children between the ages of sixteen and twenty-one with four exceptions:—The Goodwill Club, the State Sunday School Association, the Women's Christian Association, and the Young Men's Christian Association. Of course the statistics of the organizations from whom it was impossible to obtain anything or merely totals might change this result; nevertheless it clearly appears that Hartford does not make proper provision for those of its population between the ages of sixteen and twenty. In this connection the address of Mr. Collier printed as Appendix D is illuminating.

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		8–12			
Handicraft	..	33	..	..	33
Hartford Dental Assn.	..	..	..	..	1,198 app.
	0–6	6–14	14–16	16–21	Total under 21 yrs.
Hartford Dispensary					
Eye, Ear, Nose & Throat	..	..	..	..	328
Other Cases (Jan. 1912-Jan. 1913)	..	..	..	..	1,211
Hartford Orphan Asylum	32	72	11	4	119
Hartford Public Library					
Cards of Children at library	..	..	..	..	1,271
Cards of Children at schools	..	..	..	..	2,764
Hartford Social Settlement	55	190	63	63	371
Hartford Society for Prevention of Tuberculosis	..	..	100	..	100
Hillyer Institute	..	..	..	..	600 app.
Jewish Religious School Bureau	..	500	..	..	500
Outdoor School	0	130	13	1	148
Probation Officer	20	419	139	48	646
Queen's Daughters					
St. Vincent's Nursery	58	20	..	..	78
St. James Orphan Asylum	13	48	2	..	63
Salvation Army	295	448	73	19	835
Schools, Diocesan	..	..	..	..	4,791
School for Backward Children	2	44	1	..	47
Schools, Public Grammar	..	..	..	..	23,547
Schools, Evening Elementary	..	..	..	..	700 app.
Schools, Private	..	..	..	..	104
Schools, Public High	..	..	..	..	1,776
Shelter for Women	..	..	..	3	3
Sunday Schools					
Roman Catholic	..	..	..	..	6,609
Sunday Schools					
Reported through State Sunday School Assn.	6–12 1,736	2,649	..	12–20 2,323	7,415
State Tuberculosis Comm.	..	3	..	..	3
Union for Home Work					
Personal	..	..	..	..	321
Through family	..	..	..	..	154
United Jewish Charities	..	..	..	..	39

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	0-6	6-14	14-16	16-21	Total under 21 years.
Visiting Nurse Association					
Clubs and Classes	..	200	15	..	215
Warburton Chapel	..	..	..	..	350 app.
Watkinson Farm School	..	13	15	4	32
Women's Aid Society	11	..	..	..	11
Women's Christian Assn.					
Young Women's Branch	..	..	42	180	222
Young Men's Christian Assn.	..	115	215	650	980

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APPENDIX D

"COMMERCIALIZED AMUSEMENT"

JOHN COLLIER, PH. D., EMPIRE THEATRE, HARTFORD, SUNDAY AFTERNOON, JANUARY 19TH

The subject of moving pictures is only an illustration of the subject of amusement. I really haven't come to talk, except casually, about moving picture shows today. If I should succeed in doing one thing, I will really feel that I have done enough, and that is to make you realize and to arouse in you a feeling that this question of recreation and of commercialized recreation is itself as important as, we will say, the decentralization of the New England railroad system, or education, or criminology, or any of the other topics which now occupy the attention of our body politic.

Hartford is the home of one of the greatest American humanists, as well as humorists, Mark Twain, and you may remember Mark Twain's chapter in Tom Sawyer where Tom gets the other fellows to paint the fence. Well I can't tell you the story; it is perhaps too long, and I can't tell stories well; but the conclusion is that the task was onerous, painting the fence. Tom didn't want to do it, but he convinced the other fellows that they ought to want to do it, and that he wanted them to very much and that it was an honor; and they all painted the fence for Tom. Mark Twain's definition of recreation is that it is a thing you are determined to do because it is not useful.

The trouble in our American treatment of this subject is that we have taken Mark Twain at his word in considering that the recreation question was a question of the surplus needs, the luxuries, the things that were not useful, and, indeed, recreation is not useful, and should not be useful in a modern or mercantile sense. America is a very utilitarian country. Our government has been busy in the promotion of prosperity and passing it around. Our city governments have been busy pro-

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moting material welfare, and even our school systems have largely been busy educating children for business life, which is important. Our church in America has been very busy educating people directly and wholly to be good, with the idea of saving souls individually. Altogether, church, state, school system, workers, policeman,— we have gone around this question of amusement; yet the people are here and amusement has never played as large a part in the life of the people as it does now. The reasons are very important to bear in mind, because then we have our solution, too; in the very reason that makes this a great problem."

Mr. Collier showed how important recreation has become today, due to the new social conditions caused by the introduction of machinery and resulting in each member of the family working separately and obtaining no recreation at all in their work, a condition of affairs entirely at variance with the situation one hundred years ago. He went on to show how an immigrant arriving in this country no longer comes under the eyes of family, priest or those restraints which make for good behavior, but confined by work and living conditions seeks recreation where it may be found, that is in dance halls or saloons where the desire of the proprietor is to get the greatest number of people there and get the greatest amount of money out of them. So also, said Mr. Collier, the boy, who has only the streets to play in, is drawn for amusement to those places and to those acts which will furnish unscrupulous profit to the older man or to the boy himself, or in other words, there is no real family life in the big cities even where there is a family.

"Now a great many things I might say and shall say could not be true of Hartford. I do not know Hartford at all well. They are true of New York; they are true of Boston; they are true of most of the American cities, and if they are not true of Hartford, at least they may be suggestive of the kind of things that may be true of Hartford. In the average American city, if we take the family institution and ask what is being done for it by society, this is what we find. I have already mentioned how in modern industry production has been taken out of the family. This forbids home work by law, as we forbid child labor. The family must break up during its working hours.

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The father goes to one place, the mother all too frequently goes to another industrial establishment, the child goes to school, the adolescent is already to work, the boy in one place, the girl in another. During the hours of work, the family cannot have any common interest; there is no family life; therefore we would expect that in hours of play, in the leisure hours, the family would live together, family bonds would be built up, family life would be strengthened. We have recently completed the list in New York to answer that question: How far is it possible for the family group to spend its leisure time together? and we find that it is possible at all not for one in one hundred families. They do not, will not, cannot simply stay at home there. Their work, their school has made them desire for expression, entertainment, active amusement and they go out and seek pleasure; they must, and will, all of them. And if they as a family group go together to seek recreation, they are turned away from the dance hall; they are turned away from the saloon, they are turned away, because the price is too high, from the regular theatre. They go to seek where the recreation center is being conducted, and they are turned away, or their families are not let in. What is there for the family during this leisure time but separation? The unity of the family is gone; it is gone forever. With the spirit of commercialized recreation the unity of the family has gone, and is going very fast. In America where is the family going under those conditions? How does the question stand related to the increase in the divorce statistics? Evidently recreation decides a great many of our great religious and economic questions."

Mr. Collier then laid emphasis on the fact that in the modern city the two most usual and most convenient places of meeting are the dance hall and the saloon.

He then continued, "Now for the solution. I really feel again like apologizing, for what I am saying may not be true of Hartford. It may never may become true of Hartford. With the vision of the development of the Hartford Park System, about which Mr. Parker has given me an idea,— if that vision is realized, it never will be true of Hartford. With the development of this great park system of Hartford along the lines he has outlined to me, Hartford will never face a moral

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and civic crisis like New York faces now, like Boston faces, like Trenton, New Jersey, faces. If Hartford goes ahead and developes its recreation along social and civic lines, the problem may never become acute, but if you do not it will become acute as Hartford grows. These problems become most acute when a city becomes generations old. In districts where people live long enough to accumulate bad neighborhood habits, you have the beginning of the slums.

In New York we have several of these districts, inhabited by half a million people at least, which have a vicious criminal tradition. Merely to live in that neighborhood and raise young children there is to guarantee in advance that they are going to be drawn into sin. In London you see these vast slum districts which are only two or three generations old, where degeneracy has gone on and continued until the very growth, the stature of the people, has dwindled, their stamina has gone, their family has gone. They have no longer any noble incentives of play or religion among them. Those are the hapless slums which sap out the life of those that live in them. It takes a little time to build up that kind of a neighborhood. It takes a little longer to tie them to the neck of a great city, like a millstone, as it is around the neck of London today, but it will come unless we anticipate it.

The solution of this problem is very simple — public discussion, those functions of play and social life like education, which can never be left to commerce; the theatre can never be left to commerce, the moving picture show can never be left to commerce. Long ago we took the book out of the hands of unregulated commerce; we established our public libraries. Long ago we took education out of the hands of commerce when we established our public schools. We wanted to make our education more efficient and bring everybody in quickly, so we took it away from commerce, and if recreation is left to commerce it is so inefficient that most of the people get either nothing, or worse than nothing, out of it. If we leave recreation to commerce, it becomes a means of ruining the people and enslaving them morally — enslaving them to the drink habit. Recreation is a great influence for good, or it is the deadliest form of evil that any community has, and it is a sound propo-

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sition that the community must take over the recreation, not only in the park, but in the theatre, in the dance hall, and that the community must provide an active competition substitute for the saloons as well as prohibition. Isn't that the proposition that we face? That we can do that is proved by many experiments in this country and other countries. If the municipal dance hall — most of all if it is located in a schoolhouse, and if it be carried on as a family center, so that it is popular, it can be made productive to the city with no burden upon the taxpayers. That it is a money making proposition has been proved by repeated experiments in New York and other cities. That it is possible to draw the men out of the saloons to the good places for public discussion, coliseum games and active labor has been proven by many experiments in Chicago, by experiments in New York. It is proved by that that the saloon could not exist as it does in New York, and as we know it does not exist in the most of the countries where our immigrants come from. We could so develop our school buildings, our parks in the summer time, and our public libraries, that they would be family centers and would draw the preponderating majority of the people within them, and then the habits of the neighborhood would be modified by them and the community would recapture the leisure time of its people, which it has lost.

That can be done. In parts of Chicago it has been done, and in parts of New York it is being done on a self-supporting basis. We are opening the schools in New York — the schoolhouses competing with the moving picture shows, dance halls and Raines-law saloons. The taxpayers are paying nothing for the outside use of these schools; the people are glad to pay. When that is done you break the grip of the saloon on American life. The grip of the saloon is not the grip of alcoholism on American life; it is the grip of those men that go there because there is nowhere else to meet in joviality. Saloons are incidentally places where alcohol is sold through means of forcing alcohol on the public; but it is not primarily for alcohol that the public begins going to the saloon. You can only disturb the saloon by competition, the dance halls are surely not what the people want. They go to the places where the ways of amuse-

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ment are of the most degenerating kind and are invited where systematic corruption is brought to bear upon them.

It cannot be that the foreign man or woman wants to go to that kind of a place. When we tried an experiment last spring in New York and opened a public hall in a public schoolhouse, and ran a dance for men and women and charged five cents admission we filled that hall with five hundred people the first night, and afterwards we turned the people away every night for lack of room. There wasn't a uniformed policeman or officer on the grounds. The people ran the place themselves. There was no vulgar dancing and no attempt to bring liquor in there. There was no refreshment of any kind sold on the floor, and we cleared thirty dollars a night out of that dance and applied that thirty dollars to some other non-profitable recreational activities in the same building. That is now going on with a moving picture show added at fifteen dollars profit a night,— a great theatre seating fifteen hundred people. Camp-fire girls and labor unions hold their meetings in the great auditorium twice a week and they pay the physical upkeep of the hall. Music is provided by a volunteer orchestra who bring their own instruments and are only too glad to give their services. There is being built up in the school a new society. There is being given back to those people — Germans, Italians, Jews, and others,— being given back to them the taste of the freedom of their native villages from which they came; something which they dreamed they would find true in America they are beginning to feel. If that is carried on there we will destroy the saloons and dance halls, but it would not be done without a terrific fight with Tammany and vested interests, as it was even in Rochester when they went into competition with the saloon through the school; but it is that same fight,— a new species of the prohibition in this country. . . .

I do want to tell you one thing which will interest you, in view of the park system you have here in Hartford. I am still talking about New York, which is a dark and pessimistic place in these times and where sorry things happen. About ten days before Christmas, last year — last month — there appeared in Madison Square, the great park upon which

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the Metropolitan Tower stands, a huge tree which had been brought down from the Adirondacks, nobody knew by whom. When that tree stood up there it was over sixty feet high in the park; then the newspapers published the fact that it was to be our first civic Christmas tree given by a wealthy lady up in the Adirondacks. No contributions were invited, but they poured in to the embarrassment of those in charge. Now the point is this, that people's Christmas trees can be developed. There was splendid carol music, furnished by singing societies, in seven or eight different languages, and there were bands to play around that tree from six o'clock in the evening until one o'clock — until the next morning — on Christmas and New Year's Eve, and in that park there were ten thousand people standing around the tree on Christmas until midnight. Now that is going to be developed by planting the people's Christmas trees in the parks all over New York. Those trees will be for the use of the people, and the city will not provide the expenses of the festivals of the holidays on which those trees will be used. There will be music in abundance, moral plays and singing around those trees every year. All that will be necessary will be that the city shall provide the leader to go out and gather the people in. New York City has adopted the policy of encouraging the people to the use of the park in an organized way, and invited the German singing societies, the Italian clubs and groups in representation of the traditions of Verona, of Venice, and of Southern Italy, to come and organize into grand civic groups and make Christmas a new organized holiday of the city. It will cost New York just the amount of money necessary to clean up after the celebration and to keep those trees well watered while they are young.

It is along those lines that New York is going, with the idea of taking the Italian who comes to this country and brings with him a great many games, beautiful customs, and encouraging him in public pride, encouraging him to go ahead and make his festivals and games; so we will carry over into American life the richness and beauty of Italian life. Now we get him into our great congested tenement quarters, and we provide for him no place to play; we forbid his street festivals because they are nuisance,— he becomes a nuisance in our life. We

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cannot bring the Italian across into American life by simply educating him and taking him out of all the traditions he is used to. You have got to bring him across in groups by observing the social traditions and making the American traditions the traditions of the Italian. Every time we have given him the chance he has paid all of the bills out of his own pocket. Along these lines, as in the development of our parks, we have begun a limitless advance, which will end in the annihilation of commercialized amusement.

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REPORT

OF THE

BOARD OF SCHOOL VISITORS

1913

939

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SCHOOL CALENDAR, 1913-1914

Fall Term begins, September 11, 1913.
Fall Term ends, December 23, 1913.
Winter Term begins, January 5, 1914.
Winter Term ends, April 9, 1914.
Summer Term begins, April 21, 1914.
Summer Term ends, June 19, 1914.

NO-SESSION SIGNALS.

In very inclement weather, signal for no morning session at 7:45 a.m.; for no afternoon session on same day at 12:30 p.m.; for no afternoon session on a day of a morning session at 11:40 a.m.

The signal consists of a long blast followed by two short blasts of the steam whistles of the following companies: The Colt's Patent Firearms Company, The New England Brewing Company, The Central New England Railroad Company, The Pratt & Whitney Company, and the Hartford Rubber Works Company.

Ordered printed by vote of the Board of School Visitors, November 5, 1913.

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BOARD OF SCHOOL VISITORS

1913.

	Term Expires
MRS. ELIZABETH D. BACON, 106 Capen Street	June 1914
JAMES T. MURRAY, 62 Market Street	June 1914
JOHN J. McMAHON, 49 Pearl Street	June 1914
JAMES J. PEARD, 33 Allen Place	June 1915
EDWARD W. HOOKER, 10 Myrtle Street	June 1915
JOHN L. PURCELL, 44 Annawan Street	June 1915
WILBUR F. GORDY, 104 Gillette Street	June 1916
THOMAS S. WEAVER, 36 Pearl Street	June 1916
MICHAEL A. BAILEY, 434 Main Street	June 1916

OFFICERS

JAMES J. PEARD, *Chairman*,

JOHN J. McMAHON, *Secretary*.

THOMAS S. WEAVER, *Superintendent of Schools*.

COMMITTEES

ON TEXT BOOKS.

EDWARD W. HOOKER, MRS. E. D. BACON.
WILBUR F. GORDY

ON EVENING SCHOOLS.

JOHN L. PURCELL. WILBUR F. GORDY.
MICHAEL A. BAILEY.

ON VACATION SCHOOLS.

MRS. E. D. BACON, JAMES J. PEARD.
JOHN J. McMAHON.

ON MANUAL TRAINING.

JAMES J. PEARD. JAMES T. MURRAY.
JOHN L. PURCELL.

ON BUILDINGS.

JOHN J. McMAHON. JAMES T. MURRAY.
JOHN L. PURCELL.

ON RULES.

EDWARD W. HOOKER. MRS. E. D. BACON.
MICHAEL A. BAILEY.

AUDITORS.

THOMAS S. WEAVER, JOHN J. McMAHON

RANDOLPH W. WILLIAMSON, *School Attendance Officer*.
121 Newington Avenue.

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HARTFORD PUBLIC SCHOOLS

At the opening of the present century, thirteen years ago, there were less than sixteen thousand children of school age in this city. This year there are orer 24,000, the increase having been steadily going on without any of the spasmodic features of a "boom" city. To care for this large increase of children school buildings having more than one hundred new rooms have been erected and at this writing three large district buildings and a high school building are in process of construction, and the South School district is making plans for a very large building with many new features, to accommodate the children in the southern part of the city. But the growth keeps on and it seems all but impossible to keep up with it, and remain in a reasonably permanent and inexpensive condition, so far as school buildings are concerned.

The maintenance of schools is more expensive than ever before, numbers not being the only factor in that expense. Schools cost more in these times than they used to because they are worth more and mean more, not only to the children but to the community. Schools today, and Hartford schools are no exception, aim to care for the health, the physical condition, the manners, as well as for the training of the minds of children. The scope is broad, much broader than the average person conceives. In the elementary school training of the hand as well as the mind, begins in the kindergarten and does not stop so long as the child remains in these schools. Boys and girls who remain through the course provided by the elementary schools have constructive ability of no mean order, in various lines of useful things. If girls, they have learned to sew, to cook simple foods, to care for the kitchen and have a general and very good idea of what housekeeping means. in addition to being able to do freehand and some constructive drawing, to read music and to sing, and not only to sing but to know what good music is. Folk dancing and other lines of physical training suitable for girls is a part of the regular work

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of the schools. If boys, they have acquired knowledge of tools and the knack of making useful articles from wood, and to translate constructive drawing into the making of such articles. Drawing, singing, physical exercise, strong interest in the outdoor sports of boys, baseball and football, are part of the day's work during the season, these sports being under the immediate supervision of officers of the schools.

The average person may say right here, "What about studies? How are our old friends the 'Three Rs' getting along in the schools?" The answer is: never better. Better arithmetics are being written, better systems of penmanship have been devised, and as for reading, the wealth of good literature in the hands of school children today is simply wonderful. And they read it understandingly and can give much of the best with ease and accuracy. As for language, geography and history new light is pouring in upon these studies and they are made more interesting than ever before. The children absorb them. It is just as true, however, as it ever was, that graduates from elementary schools or from the High school have not had experience in business life; that the school has yet found no way to make a boy into a business man with all the quick perceptions, and knowledge of practical affairs that such a man acquires by experience, and still have the boy remain immature as all boys are. That is not the province of the school, although it may do more practical work along some such lines in the future; but the fourteen or eighteen years old boy, will still be a boy. That is something to be thankful for.

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DISTRICT SCHOOLS

There have been no significant changes in the operation of the District Schools during the year. The same district superintendents will continue in their work, but in nearly every instance with increased responsibilities brought about by a larger number of pupils and a larger number of teachers. Three considerable school buildings were begun during the early summer, one in the Southwest District which will greatly relieve conditions, and besides more class rooms, give a large assembly hall and many modern features for the benefit of the physical needs of the school. In the Washington Street District the old wooden section of the Wilson Street schoolhouse has been torn away and a brick structure with much more room is being constructed to take its place. This has been very much needed and will prove a great help to a section which will be sure to grow more rapidly when school accommodations are improved. In the Northeast District a large new building carrying an assembly hall, kindergarten and primary rooms is under construction to the west of the present buildings and it will be connected with them. Improved location of the heating plant and many other excellent things will be provided. The South District is now considering a large building on Wethersfield Avenue to relieve the congestion manifest in the Wethersfield Avenue and Wadsworth Street Schools.

The close of the school year, July 14, 1913, marked the change from uneven district taxation to an even rate laid by the city for maintenance of schools. The first year of such maintenance called for a tax of five mills, succeeding rates to be provided by the needs of the districts. As the coming years, three at least, will be subject to the act of the General Assembly it is reprinted herewith in order that those interested can see exactly how the act is to be administered:

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Resolved by this Assembly—SECTION 1. That Section 5 of a resolution amending the charter of the City of Hartford creating a Board of Finance, approved April 5, 1905, being Section 85 of the compiled charter of Hartford, is hereby amended so that the fourth sentence thereof shall read as follows: "In the preparation of said estimates, said board shall give notice to each board and department and to the chairman of each school district of a definite time when and where it will meet to consider the needs of such department or school district: and said board of finance shall recommend such tax upon the polls and ratable estates within the limits of the city as it shall deem necessary to meet such expenses.

SEC. 2. Each school district committee of the City of Hartford shall annually submit to the board of finance of said city, in such form and at such time as said board shall require, its report showing the detailed expenses of the district for its fiscal year past, and, on or before February first in each year, shall submit to said board of finance a detailed statement of the estimated expenses of the district for the next ensuing fiscal year.

SEC. 3 For the first year of the operation of this amendment, said board of finance shall recommend to the Court of Common Council appropriation of the levy of a tax of five mills upon the city's grand list, and the proceeds thereof for the purposes of school maintenance, in the various districts, and said board of finance shall apportion to each district such proportion of the proceeds of said tax as the total number of pupils registered in each district during the Fall Term immediately preceding February first bears to the total number of pupils registered in all the school districts during said Fall Term.

SEC. 4 For the second year of the operation of this amendment and for the years succeeding, said board of finance, after consultation with the several school district committees of said city, shall annually recommend to the Court of Common Council of said city the levy and appropriation for the purposes of the several school districts of such tax as it may deem necessary for the maintenance of the schools in said districts, said tax to be levied upon the city's grand list and apportioned to the several districts in accordance with the methods prescribed in Section 3 of this resolution.

Sec. 5. For the purposes of the distribution to the school districts of the tax on the shares of stock of certain corporations, as provided by Section 2333 of the general statutes, the district rate in all the school districts shall be the rate determined under the provisions of the resolution, and the amount of such tax shall be distributed to said school districts in accordance with the number of registered pupils hereinbefore provided

Sec. 6. This resolution, unless amended or repealed by the general assembly, shall remain in force for not less than five years from July fifteenth of the year in which it is put in operation, and no vote for consolidation of school districts in said city shall be taken during said period of five years.

Sec. 7. An act concerning school taxes in the City of Hartford approved May 19, 1905 being Sections 87, 88, 89 and 90 of the compiled charter of said city, is hereby repealed.

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HIGH SCHOOL CONDITIONS

The physical conditions which have governed the Hartford Public High School for the past few years are more than emphasized by the large number of pupils graduating from the elementary schools at the close of the year, bringing about an entering class very near to the one thousand mark. The coming year will show a faculty of 100 members and a registration somewhat in excess of 2,000 pupils.

Efforts were made during the year to afford to the entering class a little more time in the afternoon session and this was accomplished. The outstanding fact, however, is that there is but fifteen minutes from the close of the session for the upper classes until the opening of the session for the entering class. This is a short time in which to prepare the building suitably for the incoming class. Nevertheless the plan has worked out with somewhat better results than for the previous years, but it is very far from the ideal.

The bright outlook is that actual construction of the Broad Street addition is in progress and that within two years, probably less, there will be a relief from the pressure which has worked against the best management of such a school.

Incidental to the High School work the Continuation School for boys and young men from the factories is doing exceedingly well, with a prospect of its becoming a very important factor in connecting the school with Hartford industries.

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ELEMENTARY EVENING SCHOOLS

The public evening schools for the season of 1912-13 continued on the same general plan as for several years past, the emphasis being upon teaching the newer immigrants English language and such industrials as the rooms in control of the Board of School Visitors could accommodate. Other courses in common English branches, bookkeeping, stenography, free hand and mechanical drawing were continued and had appealed to comparatively few people. The problem in these branches of the evening school is to get hold of the boys and girls who have left the grammar schools for work, and are in much need of the courses offered. The fascination of city life in the evening has more drawing power than study. It is a somewhat hopeful sign, however, that when these young people are a few years older they take up the Evening High School courses, and thus benefit themselves after they come to the knowledge that living conditions require that they should fit for greater earning capacity. The buildings used by the board are in excellent condition, but they are from ideal in their rooms or in capacity for pupils. In the earlier part of the term, crowded conditions prevail hindering the best kind of work. Another year there will be efforts made by re-arrangement of the industrials to give more room and maintain a better balance of attendance in the buildings.

The attendance for the two terms in each school, with the registration follows. It is fair to say, in this connection, that the great difference between the registration and the attendance is more apparent than real, as many pupils find it impossible to attend the full five evenings of the week but the schools are very well filled on all evenings.

School	Registration	Average Attendance
Davis School, 625 Asylum Street	1374	319.5
Sigourney School, 15 Hurlburt Street .	634	133.6
Clark School, 67 Temple Street	833	197.4

The aggregate attendance of the schools was 45,801

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The following estimate of the value of the evening school work for foreign peoples and some description of methods is from Miss Alida B. Clark, whose life as a teacher has been spent among foreigners, both children and adults, and who for many years has been in charge of the Clark School on Temple Street:

The Evening Schoos are so well-organized, so thoroughly established as an important part of Hartford's educational system that each succeeding year spells progress. No backward steps are taken.

Evening school teachers, as a rule, are very enthusiastic and take pride and pleasure in their classes. This is not surprising for the teacher of the foreign sees the seed planted, witnesses the growth, blossoming, and fruitage in a single season. That is, the man enters the school a blank as regards spoken or written English and leaves in four months with sufficient command of the language to hold a job, or start independently in some occupation. He can write a simple, business letter, and has received many ideas as to our social-civic structure.

On the other hand, the grammar school teacher does her faithful work with no special credit, no reward, save the consciousness of duty well-performed. Although the influence of such a teacher is imperishable, the pupil going from grade to grade, is devoted to his new teacher with dim remembrance of what the past has done for him.

Methods of instruction are steadily improving. The teacher of several years' employment profiting by experience, achieves better results The new young teacher brings in late ideas from the Normal School or the College. As one visits the different classes, he is impressed with the fact that among the number of skilful teachers, no two work in the same way, yet the results may be equally good. For instance, one of our teachers, with her class of beginners, taught by direct discourse or short simple plays. She prepared daily, a brief dialogue or a series of sentences each of which could be made intelligible by action alone. This was written on the blackboard, and the pupils spent the first few minutes of the session, copying it into note books. The lesson was then worked out by acting, until a complete mental picture was formed, followed by a thorough drill in pronounciation, questioning, and sentence repetition. Finally, it was acted as a whole, reference being made to the blackboard copy in case of failure in expression. Some of the topics discussed were: "Sending Money Orders", "Asking for a Job", "Buying an Overcoat", "Locating a Public Building", "Keeping the Sidewalks Clean", and many others. All were practical lessons containing information of immediate usefulness. Much interest was aroused, and by connecting language with action such an impression was produced that the class made remarkable progress. The note books were studied outside of school, and the request was frequently made that a former lesson might be repeated.

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While the foregoing plan appealed so successfully to a class of Italians some Hebrew beginners failed to respond to it, saying that it was "childish'. Their teacher succeeded equally in another way, using however, the same idea of instituting a mental impression in entirety, before the mechanical teaching. Without the book, the lesson was taken up, idea by idea, orally. Key-words were placed on the blackboard as sentences were developed, the pupils questioned and practiced in repeating the facts. The drill finished, pointing to the key-words, the teacher slowly and impressively recited the story. Then the pupils were called upon individually for reproduction. The ideas thus firmly fixed in the mind, and the new words familiarized, all difficulties vanished. The book was taken and the lesson read with freedom and satisfaction. Most of our teachers work on the principle that in language teaching to foreigners perception of the idea should precede and be entirely separated from the mechanical work of expression which is dependent on drill and memory.

In the higher classes, exercises in language, oral and written, including business forms—in history, geography and civics were given with ingenuity and in too many forms for enumeration. The teachers were successful in holding the attention of their pupils who felt that they were getting just what they needed. They especially enjoyed the lessons in penmanship under Mr. Curtis's supervision. While many showed skill in handling the pen the progress in general was good.

On the last evening, an entertainment was given, consisting of singing and exercises by various pupils. Miss Allys Tyler, teacher of the advanced class, wrote a play "Naturalization" and trained pupils for its production. All the phases entering into the obtaining of "Citizen" papers were brought out in a highly amusing and instructive manner. It was worthy of a larger audience.

There were few changes in the teaching corps. Miss Easland, formerly connected with the school received a position in the Hebrew department.

It was with great regret that the officers of the school accepted the retirement of Miss Florence Brown who has been doing good work in the school for several years. Miss Josephine Drago previously in change of the Italians in the Manchester evening schools, was appointed to succeed Miss Brown.

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EVENING HIGH SCHOOL

HARTFORD, CONN., April 22, 1913.

Mr. Archibald A. Welch,

Chairman of the High School Committee.

Dear Sir:

I take pleasure in submitting my tenth annual report of the Evening High School.

There has been this year a marked increase in attendance over that of 1911-12. Last year the average attendance at the Monday, Wednesday and Friday sessions was 393.3; during the present season, the average attendance reached 470.1 showing a gain of 76.8 or 19.5 per cent. The increase has been in classes other than those of the manual training department, which was filled to the limit of its capacity last year. The largest attendance was during October when neary seven hundred pupils were present.

In other reports I have referred to the manifest appreciation on the part of evening school pupils of the privileges offered by the City of Hartford in maintaining an evening high school. This year, I requested those who were to receive diplomas to state in definite terms, in letters addressed to me, their opinions in regard to the actual value which their course of study has been to them. The letters which I received were well written and, as the tone of sincerity in them can not be questioned, I wish to insert a few extracts in this report.

A young man employed in an architect's office writes, "The course (architectural drawing) has benefited me in every respect, and I am well satisfied with the training it has given me."

Another young man in the same class, who has been present every evening, states that the progress that he has made is due in great measure to the school and the interest that his instructor has taken in him.

A pattern-maker, employed in a local shop, writes of the school: "It has been a great help to me in the shop where I am employed and has taught me to understand the proper construction of wood patterns of many kinds. I appreciate the kindness extended me by my teachers."

A young woman in the bookkeeping department says, "My knowledge of bookkeeping is due to the careful and explicit instructions given by the teachers in the advanced bookkeeping class."

One in the stenography class writes as follows: "I desire to express my thanks to the teachers for their careful instructions and kindly interest, and to the people of the city who have made it possible for us to have such splendid opportunities."

I feel sure that these pupils are perfectly sincere, that they have received value in return for the sacrifice of their evenings, and that our teachers are patient and earnest in their service; and it may be the in-

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terest of the evening school teacher that will prove to be the salvation of some boy or girl.

The graduation exercises were held in the assembly hall on the evening of March 19th. Mr. Wilbur F. Gordy gave an address on "A Backward and a Forward Look." Thirty-three pupils received diplomas, having completed three-year courses of study. After the exercises, there was the usual exhibition of the work of pupils in the commercial, free-hand drawing, and manual training departments.

TEACHERS FOR THE YEAR 1912-1913.

Carleton M. Allen	English
Edward S. Hawes	English
Ethel F. Littlefield	French
Mary E. Saunders	German
Max P. Philbrick	Spanish
Florence W. Sampson	Latin
Joshua L. Robins	Mathematics
Frank A. Nevers	Chemistry
Thomas Brabazon	Free-hand Drawing
Katherine G. McLean	Bookkeeping
Florence W. Jackson	Bookkeeping
Hubert M. Toppin	Bookkeeping
Charles W. Jackson	Bookkeeping
Joseph F. Jardine	Bookkeeping
Mary E. Elwood	Bookkeeping
Julia U. Dibble	Stenography
Mary R. Rice	Stenography
Rebecca Itzkovitch	Stenography
John J. Fortin	Stenography
Ada Down	Typewriting
Irma M. Marshall	Tpyewriting
Frank J. Preston	Pattern-making
Willis L. Hayes	Pattern-making
William K. Dyson	Pattern-making
Howard C. Wiley	Mechanical Drawing
Harold I. Adams	Mechanical Drawing
James C. Nicholson	Mechanical Drawing
Leonard I. French	Mechanical Drawing
Robert E. Haines	Mechanical Drawing
Arthur H. Soper	Mechanical Drawing
George F. Weeks	Mechanical Drawing
William H. Linton	Mechanical Drawing
David Weinerman	Mechanical Drawing
Charles F. Gifford	Architectural Drawing
William C. Holden	Metal-work
Fred B. Brink	Metal-work

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Edward A. Slye	Metal-work
Richard F. Dow	Metal-work
Harold F. Penney	Shop Mathematics
William H. Harrington	Shop Mathematics
Juanita M. Dean	Cooking

LIST OF PUPILS RECEIVING THREE-YEAR CERTIFICATES.

Helen E. Buckley	Stenography
Helen M. Caulfield	English and French
Dagmar L. Christensen	Stenography
Anna C. Engquist	French
Lena Geerts	Bookkeeping
Mary J. Granfield	Stenography
Mary C. Hannon	Bookkeeping
Marie J. P. Jefsen	Bookkeeping
Helen E. Wardinski	Bookkeeping
William R. Bleehdorn	Mechanical Drawing
Rupert E. Brinton	Architectural Drawing
Andrew E. Carr	Bookkeeping
Thomas Davidson	Machine Shop Practice
Frank T. Grechko	Wood-work and Pattern-making
Victor Hallin	Machine Shop Practice
Robert R. Hunter	Architectural Drawing
Robert H. Kittredge	Machine Shop Practice
Edgar C. Lundeberg	Mechanical Drawing
Stephen S. Marone	Bookkeeping
Alfred G. Mastriforte	One year each in Chemistry, Latin, and Algebra
James McCarter	Architectural Drawing
Jacob G. Menasian	Architectural Drawing
John J. Murphy	Bookkeeping
Raymond J. Neiditz	Bookkeeping
James L. O'Brien	Mechanical Drawing
Martin Olesn	Machine Shop Practice
Anthony F. Pansullo	Architectural Drawing
John E. Plowsky	Mechanical Drawing
John L. Roach	Bookkeeping
Albert E. Salter	Machine Shop Practice
Reuben J. Solomon	One year of Free-hand Drawing and two years of Mechanical Drawing
Armenag S. Vetzmadian	Pattern-making
Albert Wolf	One year of Metal-work and two years of Wood-work and Pattern-making

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ATTENDANCE FOR THE YEAR 1912-1913.

	Male	Female	Total		Male	Female	Total
Oct. 14	493	237	730	Feb. 3	245	104	349
16	567	253	820	5	286	98	384
18	499	242	741	7	246	120	366
21	466	225	691	10	265	120	385
23	494	197	691	12	247	103	350
25	463	220	683	14	222	109	331
28	442	222	664	17	270	117	387
30	466	203	669	19	261	112	373
Nov. 1	349	146	495	21	198	97	295
4	449	211	660	24	251	113	364
6	405	193	598	26	245	100	345
8	420	203	623	28	220	96	316
11	426	207	633	Mch. 3	241	129	370
13	441	178	619	5	239	111	350
15	413	171	584	7	212	105	317
18	410	193	603	10	251	108	359
20	395	187	582	12	224	99	323
22	333	170	503	14	209	104	313
25	344	165	509	17	235	114	349
Dec. 2	299	97	396	19	224	105	329
4	385	153	538	Oct. 15	72	17	89
6	326	151	477	22	82	23	105
9	341	165	506	29	75	21	96
11	329	156	485	Nov. 5	55	21	76
13	317	151	468	12	72	19	91
16	325	137	462	19	73	19	92
18	272	118	390	26	61	17	78
Jan. 6	308	149	457	Dec. 3	57	15	72
8	322	122	444	10	64	18	82
10	273	126	399	17	52	20	72
13	292	138	430	Jan. 7	47	15	62
15	310	112	422	14	39	17	56
17	281	121	402	21	44	12	56
20	303	140	443	28	51	18	69
22	311	118	429	Feb. 4	47	12	59
24	272	113	385	11	42	17	59
27	287	119	406	18	43	15	58
29	285	109	394	25	38	15	53
31	240	109	349	Mch. 4	39	18	57
				11	32	20	52
				18	33	18	51

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AVERAGE ATTENDANCE BY CLASSES FOR THE YEAR 1912-1913.

Subject	Sections	Average Attendance
English Composition	2	29
English Literature	2	18
French, elementary	1	15
French, advanced	1	8
German, elementary	1	10
German, advanced	1	5
Spanish (discontinued Jan. 10)	2	16
Algebra	1	20
Geometry and Trigonometry	1	16
Bookkeeping, elementary	1	46
Bookeeping, advanced	1	33
Stenography, elementary	2	42
Stenography, advanced	1	22
Typewriting	2	44
Chemistry	1	12
Free-hand Drawing	2	22
Latin	2	16
Cooking	2	32
Pattern-making	1	20
Wood-work	1	20
Metal-work, first year	2	17
Metal-work second year	2	21
Metal-work, third year	2	18
Mechanical Drawing, first year	1	37
Mechanical Drawing, second year	1	27
Mechanical Drawing, third year	1	21
Architectural Drawing, elementary	1	16
Architectural Drawing advanced	1	13

	1912-13	1911-12	1910-11
Average attendance at Monday, Wednesday and Friday classes	470.1	393.3	368.3
Average attendance at Tuesday classes	70.7	53.3	38.4
Average attendance on basis of eighty evenings	365.3	308.3	279.8

Respectfully submitted,

DAVID G. SMYTH,

Principal-in-charge.

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RECREATION WORK IN SUMMER

The board can take great satisfaction over the successful summer in recreation work, the attendance having been larger, the work better for the most part and the general interest of parents and children greater than ever before. Twelve playgrounds were maintained during the summer, two vacation schools, the Little Mothers' bathing house for babies and two school gardens of much benefit to those engaged in them, were maintained. While the work provided no new features, there were some re-arrangements that made the playgrounds more successful, all the grounds being open from 9 o'clock in the morning until 6 o'clock in the evening and the athletic field on Pope Park having been open for twelve hours, six days in the week. The co-operation of the Park Board in providing good locations and the major apparatus made it possible for the instructors and leaders to have definite plans and to work them out so that all the children attending had personal attention and care.

The more equal distribution of this work throughout the city has been the greatest difficulty connected with it. North of Tunnel Square it has been impossible to find suitable grounds for a playground, although there are hundreds of children who would be much benefitted by such a ground. It is hoped that another year may bring about a much desired result of this nature.

Miss Easland, in charge of the Little Mothers' Playgrounds established for the purpose of teaching young girls to bathe the younger children of the family, gives an interesting description in her report of some phases of this interesting work

"There were 1,360 babies bathed during the month of July which is a notable increase over the number bathed last year, although some of the mornings were so cold that it was not advisible to give baths. It is amusing to note how particular some of the little mothers are. Before putting the baby into the bath, down goes the hand into the water. It is either "too hot" or not quite warm enough. The towel and wash

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cloth are carefully inspected, the largest piece of soap is taken and there insistance on the powder box being very convenient. Otherwise the little mother will not bathe the baby under her charge. Such a spirit will tend to fastidiousness when these children grow up and the demand will be not only for a bath but for a bathroom for the children of the future. These children give most pathetic reasons why they cannot wash their babies at home, the chief one being that there is no bathroom." She suggest that a procession of children unwashed as they are when they come to the playground, should pass up to City Hall and around the square with emblems like these "Can I bathe my baby?" "I want a bath." "No place at home for a bath." Perphaps this might help cleanliness in congested sections of the city.

The school gardens were successful in spite of the dry season in the middle of summer. Relatively the most expensive of the activities under the care of the board, they bring back to the children a large amount of vegetables for the tables of their families. It is possible that another year by some re-arrangement and planting short crops, exclusively, more children can have gardens and the expense be somewhat reduced.

One playground, at the foot of Pequot Street, which was maintained without any friction in the summer of 1912 was carried on with many difficulties the past summer. Vandalism, destruction of city property and general annoyance seemed to be the prevailing attitude of the "gang" in that section of the city. The children, however, enjoyed and the parents appreciated the opportunity offered for free play under direction. As the property will probably largely be occupied by railroad yard extension another year, this playground will pass out.

The attendance and the good behavior of all actually in the playgrounds have been exceedingly good. The number, including 7,505 adults visiting the smaller playgrounds, reached for the summer the somewhat impressive figure of 202,962, showing the interest and also hinting at the benefits of this valuable work.

The attendance at the various playgrounds for the months of July and August follow;

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MONTH OF JULY.

	Total Attendance
Little Mothers,	8,255
Brown School Playground,	4,990
Riverside Playground,	10,324
Bushnell Park Playground,	16,306
Colt Park Playground,	12,825
Pope Park Athletic Field,	36,450
Pope Park, Terrace Playground	10,564
Pope Park, Overlook Playground	7,801
Pequot Playground,	5,164
Sigourney School Playground	2,684
Sigourney Vacation School,	2,870
Barnard Vacation School	6,921
Total attendance	125,154
Average daily attendance,	4,631

MONTH OF AUGUST.

Pope Park, Overlook Playground,	6,736
Pope Park Athletic Field,	27,800
Pope Park, Terrace Playground,	8,188
Pequot Playground	2,499
Colt Park Playground,	7,017
Bushnell Park Playground,	10,849
Riverside Playground,	3,215
Brown School Playground,	2,924
Sigourney School Playground,	1,105

Total Attendance, 70,333; average daily attendance, 2,705; total attendance for the summer 195,457; average daily attendance for the summer, 3,668.

OPEN AIR SCHOOL

The Open Air School with accommodations for seventy pupils has been cared for during the past year by the Board of School Visitors, except that the food has been supplied by the Society for the Prevention of Tuberculosis until the beginning of the fiscal year April 1, 1913. Since that time the entire expense of the school has been provided for by the city. It is still doing a great work for the health of the children selected for its care, and has apparently become a permanent institution.

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SCHOOL ATTENDANCE OFFICER'S REPORT.

Mr. Thomas S. Weaver,
Superintendent of Schools.

Dear Sir:

I herewith present the following as a complete and correct report of my work for the years of 1912 and 1913.

Total number of cases investigated	3,410
Children kept at home by parents	480
Children kept at home by sickness	910
Children kept at home by poverty	84
Children taught at home	3
Children mentally or physically disqualified	108
Children withdrawn from School, Left town	305
Gone to work	424
Children whose residence could not be found	18
Children found to be Truants and returned to School	64
Children found to be Truants and committed to Reform School and Deep River	35
Children found to be Truants and committed to Industrial School	9
Children found to be neglected and commmitted to Temporary Home	63
Children found to be Non-attendants and placed in School	54
Children found to be employed in compliance with law	424
Chidren found to be employed contrary to law and placed in School	97

Sixty-five cases of poverty reported to Charity Organization; twenty eight cases of neglected children reported to Humane Society.

R. W. WILLIAMSON,
Attendance Officer.

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ENUMERATION OF CHILDREN OF SCHOOL AGE.

	District	1909	1910	1911	1912	1913
1	Brown	2,314	2,411	2,411	2,392	2,455
2	South	8,036	8,132	8,602	8,932	9,076
3	Second North	2,534	2,368	2,682	2,660	2,645
4	West Middle	1,926	1,932	1,959	1,956	1,927
5	Arsenal	2,182	2,180	2,301	2,477	2,555
6	Washington	1,505	1,488	1,553	1,659	1,740
7	Southwest	200	238	264	304	334
8	Northeast	1,082	1,240	1,355	1,481	1,530
9	Northwest	1,110	1,329	1,531	1,686	1,849
		20,889	21,318	22,658	23,547	24,111

The State grants for each child enumerated $2.25, which is distributed to the districts through the office of the City Treasurer, the Board of School Visitors furnishing a sworn statement to the Comptroller of the State.

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EXCLUSIONS FROM SCHOOLS BY BOARD OF HEALTH'S MEDICAL INSPECTORS.

Diseases	Jan.	Feb.	Mar.	Apr.	May	Jun.	Sep.	Oct.	Nov.	Dec.	Total
Measles	....	....	....	2	4	4	....	....	2	....	12
Diptheria	2	1	1	2	....	4	1	3	2	....	16
Mumps	....	3	2	....	....	....	....	....	....	....	5
Skin Diseases..	16	16	18	13	25	13	31	31	49	18	230
Parasitic Diseases	38	42	28	39	56	24	45	113	108	67	560
Miscellaneous .	10	5	4	11	25	3	9	10	20	14	111
Chicken Pox ..	1	3	5	1	2	1	....	....	....	....	13
Scarlet Fever..	1	....	....	....	1	1	....	....	1	....	4
Total	68	70	58	68	113	50	86	157	182	99	951

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BOARD OF SCHOOL VISITORS.

APPROPRIATIONS AND EXPENDITURES
For Fiscal year Ending March 31, 1913.

	Appropriation	Amended	Expended
Superintendent's Salary	$2,000.00	$2,000.00	$2,000.00
Attendance Officer's Salary	1,100.00	1,100.00	1,100.00
Manual Training—			
Salaries	15,500.00	15,500.00	15,142.63
Material and Equipment..	2,525.00	2,525.00	2,472.51
Repairs	1,000.00	708.17	478.69
Permanent Improvement..	1,500.00	1,791.83	1,791.83
Printing	500.00	460.22	435.20
General Expense	800.00	800.00	795.85
Office Rent	425.00	425.00	425.00
Attendance Officer's Expense	250.00	250.00	250.00
Free Text Books, High School	3,300.00	4,606.34	4,606.04
Free Text Books, District...	9,600.00	10,806.95	10,806.95
Evening Schools	15,500.00	15,500.00	15,387.40
Vacation Schools	6,500.00	6,522.11	6,522.10
Out Door Schools	4,000.00	3,354.38	3,320.56
Street Sales by Children....	200.00	200.00	184.00
Unexpended balance			831.24
	$64,700.00	$66,550.00	$66,550.00

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RECEIPTS FOR SCHOOL PURPOSES, YEAR ENDING JULY 14. 1913.

From State Moneys,		
Enumeration Grant	$52,980.75	
School Library Grant	945.00	
Evening School Grant,	2,234.25	$56,160.00
From Town Moneys,		
Town Deposit Fund	1,408.88	
Town Taxation	291,758.11	293,166.99
From District Taxes	383,575.79	383,575.79
From Tuition Fees,	10,880.84	
From Corporation Tax	116,409.56	
Cash on Hand	65,578.24	
Miscellaneous	19,082.35	211,950.99
Total		$944,853.77
Received from Loans		21,000.00
Grand Total		$965.853.77

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EXPENDITURES FOR SCHOOL PURPOSES, YEAR ENDING JULY 14, 1913.

	Total	Day Schools		Evening Schools	
		Elementary	High	Elementary	High
General Control					
School Board Office	$1,656.05	.....	.....	.....	.....
Superintendent	2,000.00	.....	.....	.....	.....
Truant Officer	1,350.00	.....	.....	.....	.....
Instruction					
Supervisors grade and subjects	15,100.00	15,100.00	.....	.....	.....
Principals	35,650.00	28,800.00	5,500.00	850.00	500.00
Teachers	425 040.80	315,861.74	96,374.31	6,189.75	6,615.00
Text Books	15,713.30	10,806.95	4,606.04	300.31	.....
Stationery and Supplies	17,180.31	13,328.77	3,046.31	702.00	.....
Other expenses of Instruction	10,414.98	10,414.98	.....	.....	.....
Operation of Plant					
Janitors and engineers	37,842.43	32,170.18	5,142.25	530.00	.....
Fuel, Water, Light, supplies	33,192.52	23,139.86	7,799.33	834.40	1,419.33
Miscellaneous	2,141.25	2,141.25	.....	.....	.....
Maintenance of Plant					
Repairs, Insurance, etc.	35,496.72	29,452.34	4,420.34	1,624.04	.....

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Miscellaneous					
Transportation	46.61	46.61	.....	.....	.....
Library and Apparatus,	2,840.53	2,157.77	682.76	.....	.....
Promotion of Health	3,081.00	.....	.....	.....	.....
School District Officers, etc.	7,143.52	.....	.....	.....	.....
Contingent Expense	2,855.61	.....	.....	.....	.....
Rent	1,800.00	.....	.....	1,800.00	.....
Total Current Expenses	$650 545.63				
Capital Outlays					
New Grounds and Buildings	7,500.00	.....	.....	.....	.....
New Equipment	18,843.00	16,803.32	.....	2,039.68	.....
Total Outlays	$26,343.00				
Payments of Debts					
Interest on Loans	82,735.54	82,735.54	.....	.....	.....
Paid Principal of Loans	62,809.31	62,809.31	.....	.....	.....
Total	$145,544.85				
Grand Total Expense	$822.433.48				

The two tables above represent for the first time the total receipts and expenditures of all departments of the schools including the Board of School Visitors, and may be said to cover the public schools of the city as a system.

SCHOOL STATISTICS, YEAR ENDING JULY 14, 1913.

District	No. Teachers	Teachers Wages	Enum. 1912	Average Registra. Term	Average Attend.
Brown	47	$42,481.75	2392	1781	1540
South	130	104,971.19	8932	5103	3971
Second North	56	37,130.49	2660	1690	1386
West Middle	40	37,345.00	1956	1068	906
Arsenal	51	29,026.55	2477	1760	1445
Washington St. ..	34	27,478.45	1659	1304	1090
Southwest	8	4,505.00	304	233	213
Northeast	36	22,930.80	1481	1332	1071
Northwest	40	27,803.48	1686	1251	1039
High School	87	101,874.30	....	1874	1745
	529	$435,547.01	23,547	17,394	14,606

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SCHOOL PROPERTY, DEBT, LIQUIDATION AND INTEREST YEAR ENDING JULY 14, 1913.

District	Real Estate and Equip.	Indebt.	Pd. Interest	Liquidation
Brown	$503,000	$35.000	$1,400.00	10,000.00
South	874,690	600,000	20,850.39	5,909.31
Second North	200,275	322,500	13,075.00	1,185.02
West Middle	378,730	420,000	16,110.75	6,000.00
Arsenal	189,150	214,000	8,718.12	19,500.00
Washington St.	197,206	180,000	6,808.15	
Southwest	17,020	22,800	963.97	
Northeast	148,504	131,600	5,027.14	18,400.00
Northwest	185,950	240,801	9,782.02	3,000.00
High	694,400			
	$3,388,925	2,166,701	82,735.54	63,994.33

TEACHER'S SALARIES.

The salaries of teachers in both the Elementary and the High School are given in the table below, which is the first table of the sort yet prepared for Hartford Schools. It is noted to be that the salaries under $300 are "part time" salaries.

	Elementary Schools		High School	
	Men	Women	Men	Women
Less than $200	..	4	..	..
$200 to 299	..	3	..	..
300 to 399	1	3	..	..
400 to 499	2	26	..	1
500 to 599	1	70	1	..
600 to 699	1	123	..	..
700 to 799	..	101	..	1
800 to 899	1	50	2	..
900 to 999	..	31	43	7
1000 to 1099	2	8	..	12
1100 to 1199	..	1	3	16
1200 to 1299	4	4	4	9
1300 to 1399	1	3	..	2
1400 to 1499	2	..	4	2
1500 to 1599	2	..	2	2
1600 to 1699	1	1	2	1
1700 to 1799	3	..	2	1
1800 to 1899	1	..	2	..
1900 to 1999	1	..	1	..
2000 to 2499	2	..	5	..
2500 to 2999	2	..	2	..
3000 and over	5	..	1	.

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HARTFORD PUBLIC HIGH SCHOOL

CLASS OF 1913.

Spectemur Agendo.

Bertha Alice Abild
Ethel Jennette Agard
Grace Adelina Allen
Ellen Nora Anna Andersen
Elizabeth Agnes Anderson
Clara Luella Armstrong
Olive Barrows
Doris Jeannette Bartlett
Agnes Hyde Barton
Beatrice Ransom Baxter
Mildred Elinor Beebe
Mildred Case Belcher
Mae Berkovsky
Helen Havens Berry
Alice Eleonore Besse
Evelyn Isabelle Bonar
Hilda Basse Boyd
Eileen Ruth Brumbaum
Agnes Marie Byrne
Irene Celia Callin
Helen Cletus Cannon
Charlotte Cohen
Mildred Elvira Cooke
Elizabeth Barton Cooley
Catherine Elizabeth Costello
Elsie Elizabeth Cotter
Florence Adams Crane
Marjorie Joyce Crosby
Esther Whitney Crossley
Florence Mary Cunningham
Julie Kathleen Curtin
Elizabeth Davis
Marjorie Geneva Davis
Ethel Frances Donaghue
Clara Marie Dooley
Josephine Anna Dooley
Marjorie Berry Eaton
Caroline Eckstein
Leona Beatrice Elcock
Gertrude Arline Fannon
Ida Edythe Farber
Josephine Dorothy Foley
Evelyn Estelle Francis
Elizabeth Welch Gates
Laura Justina Gates
Elsa Rosalie Gluick
Irene Antoinette Godin
Blanche Catherine Golden
Madelin Frances Arthur Gray
Estelle Harriet Greenberg
Carrie Gertrude Gross
Ruth Pauline Elizabeth Gross
Florence Josephine Gunning
Helen Pauline Hafey
Marguerite Louise Hanaghan
Florence Temple Harvey
Alice Elsie Heath
Elsa Marie Helmond
Lillian Wilhelmina Herter
Marion Hewes
Irene Trehy Hogan
Ruth Wilmot Hummel
Marguerite Louise Hurlburt
Esther Fredrica Itzkovitch
Mildred Sturges Keep
Mary Martha Keleher
Florence Gertrude Kelley
Margaret Colette Kidney
Helen Scott Maria Kingsley
Edith Edna Koenig
Bessie Edith Kofsky
Marion Louise Kropp
Wilhelmina Marie Kuhrt
Bessie Edith Lamiansky
Ruth Inez Langdon
Louise Hedwig Lange
Ruth Eleanor Lange
Lena Lapidus
Katherine Josephine Lawler
Myrtle Clark Lawson
Lucy Veronica Lee
Bessie Levine
Florence Amelia Lewis
Margaret Brewster Lincoln
Lena Rose Lopiansky
Dorothy Olive Lorentz
Helen Robbins Loveland
Lillian Lurie
Jennie Irene MacCallum
Helen Marguerite Malloy
Hazel Olive Marsh
Helen Maxwell
Ruth Pearl May
Catherine Laurentine McGormick
Pearl Barbara McIntosh
Frances Cecele McIntyre

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Ruth Burg Michael
Beatrice Olivia Michaels
Sara Frances Miel
Elsie Kate Miller
Marguerite Gertrude Miller
Esther Louise Morgan
Ruth Muller
Frances Broughton Murphy
Rosella Marie Murphy
Mary Margaret Attracta Murray
Rose Nemeroff
Grace Elizabeth Nettleton
Margaret Starr Nichols
Anne Marentze Nielsen
Esther Ofshay
Anna Lillian Orenstein
Mildred Emergene Phelps
Pauline Ernestine Poder
Agnes Loretta Prendergast
Ruth Marion Purinton
Elizabeth Montgomery Purnell
Macy Marie Putnam
Arvilla Thresher Readette
Theresa Lillian Redding
Isabelle Mary Roberts
Ethel Williams Robins
Laura Russell
Bessie Edith Sack
Arbutus Rose Saunders
Marie Josephine Shea
Helen Norine Sheehan
Olive Sheldon
Dorothy Mary Sherman
Esther Smith
Julie Agnes Smith
Norma Lelia Smith
Theodate Haines Soule
Helen Elizabeth Stoddard
Harriet Mae Stratton
Winifred Josephine Sullivan
Alice Nathalie Swenson
Elizabeth Taft
Maude Lillian Taylor
Jean Adelle Thompson
Ruby Tuttle
Ruth Valentine
Mary Elizabeth Vaughn
Ada Waingrow
Mildred Wakefield
Irene Anna Ward
Ethel Margaret White
Hazel Alice Whitehead
Marjorie Ella Wiley
Clara Josephine Wolf
Edna Almeda Woodford
Harriet Jennette Woodford
Frances Wilcox Wright
Clinton Linwood Allen
Harry Ingersoll Bashlow
Frederick Bernard
Edwin Francis Berry
Harold Francis Bidwell
Francis Putnam Bill
Hyman Block
Arthur Edwin Burnap
Harold Cheesick
Frederick Chalker Church
Clifford Walls Collins
Ralph Joseph Crosby
Raymond Clark Dimon
Samuel Donner
Harry Dworski
Edward Bacon Erickson
Alfred West Francis
Max Loeb Goldenthal
Arthur Morris Goldstein
Arthur Stephen Goodman
Joseph Norman Gray
Herman James Greenberg
George Dixon Greer
George Chadwick Griffith
Philip Haas Hammerslough
Abraham Harris
Edwin Haub
Carl Edward Hemmann
Allerton Cushman Hickmot
Harry Osher Himmelblau
Morgan Edwin Holcomb
William Frederick Honer
George Stewart Hopkins
John Browning Hurlbut
Harold Orville Johnson
Raymond Camillo Johnson
George Cornelius Kane
Henry Katz
Ernest Gottfried Kaufmann
Robert Francis Kilfoil
Harry Kindser
Cornelius Anthony Kirwan
Floyd Carlton Knowles
William Levin
Richard Brainard Lewis
Drummond Williamson Little
Harry Crowther Lydiard
Albert Julian Marks
Arthur Leverett Martel
Edwin Hyland May
Calvin Curtis McCray, Jr.
Harrison Benedict McCleary
Harold Jason McLeod
Daniel Griffin Molloy
Daniel John Molloy
Clarence Trevor Murdock
Thomas Francis Nolan
David Wise Olshefskie
John Martin Parker

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Stanley Marth Peer
George Morris Peizar
John Joseph Relihan
Russell Henry Rhodes
Eugene Bradford Ripley
Martin Brown Robertson
William Thomas Roche
George Burton Rosenthal
Levi Thaddeus Rowley
Louis Semon
Arthur Louis Shershevsky
William Karl Shoor
Emanuel Shulman
Willard Case Sisson
James Hubbard Spencer
Kent Elston Stoddard
Henry Charles Stone
Ralph Warren Storrs
Edward Stuart Strahan
Loring Morton Tapley
Donald James Tree
Thomas Henry Tuohy
Willard Lewis Viers
Arthur Pehr Robert Wadlund
Adrian Rowe Wadsworth, Jr.
Wilbur Wyatt Walker
Julian Chambers Warner
Allen Dexter Wassall
Henry August Weidlich
Merle Williams Whipple
Frederick William White, Jr.
Raymond Terry White
Earl Kenneth Whitney
Raymond Daniel Whitten

PRIZES FOR THE YEAR ENDING JUNE, 1913.

SCHOLARSHIP.

Senior Class	Alfred W. Francis	$15.00
Senior Class	E. Bradford Ripley	10.00
Junior Class	Melville Shulthiess	15.00
Junior Class	Ralph M. Marshall	10.00
Third Class	Frederick G. Vogel	15.00
Third Class	W. Irving Leahy	10.00
Fourth Class	Grace I. Gesner	15.00
Fourth Class	Adolph Brook	10.00

BATTERSON PRIZE DEBATE.

H. P. H. S. Debating Club vs. Hopkins Debating Club.
Won by H. P. H. S. Debating Club.
First prize was awarded to Albert J. Marks.
Second prize was awarded to Max S. Berkovsky.

The '78 prize for the best oration, $5, E. Bradford Ripley.

The '88 prize for the best essay, $5. Olive Sheldon.

The'89 prize for the best Latin examinations for four years. $5, Grace A. Allen.

The '96 prize for the best Mathematical examinations for four years. Alfred W. Francis.

The 1900 prize for the best English examinations for four years. $5. Isabel M. Roberts.

The prize of the Greek Class of 1910 for the best Greek examinations, $5, Harry O. Himmelblau.

The Daniel Goodwin Scholarship in Trinity College was awarded to Arthur P. R. Wadlund.

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HIGH SCHOOL COMMITTEE.

1913-14.

JOHN J. McCOOK, *Chairman.*
WILLIAM H. SCOVILLE *Treasurer.*
GEORGE ZUNNER, *Secretayr.*
JAMES N. H. CAMPBELL.
MORITZ WIEDER.

TRUSTEES OF HARTFORD GRAMMAR SCHOOL.

EDWARD B. HOOKER, *Chairman.*
FRANCIS PARSONS, *Secretary.*
AUSTIN C. DUNHAM.
FRANCIS GOODWIN.
HENRY S. ROBINSON.
ARTHUR L. SHIPMAN.
PHILIP D. BUNCE.

SUPERINTENDENT OF PUBLIC SCHOOLS.

THOMAS S. WEAVER, Office, 36 Pearl Street.

SUPERINTENDENT OF THE BUILDING.

FRED F. PAYNE, 260 Oxford Street.

JANITOR.

ROBERT L. McCOOMBS, 65 Roosevelt Street.

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TEACHERS IN THE HARTFORD PUBLIC HIGH SCHOOL.

1913-14.

Clement C. Hyde, A. B.,	Principal,	276	Oxford Street.
Edward H. Smiley, LL. D.,	Principal Emeritus, Latin,	244	Collins Street.
R. Eston Phyfe, A. B.,	Vice-Principal, History,	233	Sargeant Street.
William C. Holden, M. E.,	Second Vice-Principal,	273	Sargeant Street.
Frank P. Moulton, A. M.,	Latin,	36	Willard Street.
David G. Smyth, A. B.,	Science,	46	Willard Street.
Homer W. Brainard, A. B.,	Mathematics,	88	Kenyon Street.
Franklin H. Taylor, A. M.,	Latin, German,	23	Lincoln Street.
Alfred M. Hitchcock, A. M.,	English,	203	Sigourney Street.
Frank J. Preston,	Woodworking.	30	Raymond Street.
Lewis W. Allen,	Physical Training,	12	So. Marshall Street.
Samuel M. Alvord, A. B.,	Latin,	254	Ashley Street.
George B. Kingsbury, A. M.,	Bookkeeping,	32	Whitney Street.
Ralph L. Baldwin,	Music.	81	Tremont Street.
Karl P. Morba, A. B.,	German, French,	46	Capitol Avenue.
William E. Conklin., A. M.	Latin, Geometry,	43	Burton Street.
Joshua L. Robins, B. S.,	Mathematics,	193	Edgewood Street.
Bayard D. York, A. B.,	Mathematics,	3	Whiting Street.
Carleton M. Allen, A. B.,	English, Algebra,	438	Hillside Avenue.
Howard C. Wiley,	Constructive Drawing,	139	Allen Place,
Harold F. Penney,	Continuation Studies,	92½	Brook Street.
Gibson E. Bradbury, A. M.,	Latin, Algebra, English,	51	Oakland Terrace.
Ernest A. Coffin, A. M.,	Greek, Latin,	50	Niles Street.
Leonard I. French,	Woodworking, Con. Draw.,	55	Willard Street.
Clarence G. Gould, A. B.,	Algebra,	1	Sumner Street.
Edward S. Hawes. A. M.,	English,	9½	Highland Street.
Wayland F. Walch, A. B.,	Science,	46	Willard Street.
William E. Blake, A. M.,	English, History,	56	Edgewood Street.
Arthur V. Burt, A. B.,	French, German,	141	Homestead Avenue.
Raymond B. Case, Ph B.,	Science,		Highland Court.
George L. Fox, Jr.,	Physical Training,	51	Sumner Street.
Carl G. Franzen. A. M.,	Algebra, Latin,	141	Homestead Avenue.
Frederick T. Gilbert, B. S.,	Science,	478	Prospect Avenue.
Harold M. Hine, B. S.,	Science,	40	Deerfield Avenue.
Walter E. Leidner,	Com. Geog., Bookkeeping,	286	Sigourney Street.
Harold T. Nearing, A. B.,	English,		Windsor, Conn.
Clara A. Pease,	Science,	80	Church Street.
Lucy O. Mather,	Mathematics (Abs. 1913-14)	747	Asylum Avenue.
Anna H. Andrews, Ph. B.,	Mathematics,	167	Beacon Street.
Mary L. Hastings,	English,	40	Capitol Avenue.
Jennie A. Pratt,	History,		So. Glastonbury, Ct.
Elisabeth W. Stone, B. L.,	Science,		40 Allen Place.
Katherine L. Hills,	Physical Training,	33	Garvan St., E. Hfd
Helen L. Wolcott, A. B.,	Geometry,		Wethersfield, Conn.
Mary L. Sawtelle, Ph. B.,	French,	34	Whiting Street.
Jane MacMartin,	German,	28	Gray Street.
Mary E. Alexander,	Stenography, Typewriting,	38	Whiting Street.
Harriet Robbins A. B.,	Algebra History,		Wethersfield, Conn.
Eldora J. Birch, B. S.,	Science,	32	Wells Ave., E. Hfd.
Cordelia D. Gaylord, A. B.,	English, Geometry,	38	Whiting Street.
Iola L. Pearl,	Com. Geog., Bookkeeping,	719	Asylum Avenue.
Georgine van Braam	French, Ger. (Abs. 1913-14)		
Mercy A. Brann, A. B.,	English,	34	Whiting Street.
Maud Metcalf, A. M.,	Science,	34	Whiting Street.
Elizabeth P. Peck, A. B.,	English,	719	Asylum Avenue.
Catherine M. Tinker,	Algebra, Latin,	38	Whiting Street.
Katherine G. McLean, A. B.,	Algebra, Bookkeeping,	35	Evergreen Avenue.
Sarah M. Taylor,	History,	1	Spring Street.
Mabel Barstow, A. B.,	English, Geometry.	56	Atwood Street.
Kathrina M. Davis, A. B.,	English, (Abs. 1913-14)		
Laura E. Glazier, A. B.,	Algebra, Latin,	44	Willard Street.
Ellen M. Noble, A. B.,	Mathematics,	286	Vine Street.
Mary P. O'Flaherty, A. B.,	Algebra, Latin,	140	Main Street.
Florence W. Sampson, A. B.	French, German,	1	Sumner Street.
J. Grace Warner,	Bookkeeping, Typewriting,		Rocky Hill, Conn.
Minnie D. Booth A. B.,	Latin, History,	28	Gray Street.
Ruth Dean, Ph. B.,	Algebra, English,	417	Albany Avenue.
Anne G. Goodsell, B. S.,	English History,		Maple Hill, New Britain

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Mary P. Gordon, B. L.,	English, History,	134	Sigourney Street.
Ethel F. Littlefield,	French,	56	Willard Street.
Alice G. Smith, A. B.,	Stenography, Typewriting,	63	Imlay Street.
Juanita M. Dean,	Domestic Science,	51	Spring Street.
Ethel G. Reynolds, A. B.,	French, German,	122	Garden Street.
Genevieve Waters, A.M.,	English, History,		Wethersfield, Conn.
Frances H. Bacheler,	Free-hand Drawing, Modeling,	1	Sumner Street.
Annie E. Sporer,	German, French.	112	Park Terrace.
L. Evelyn Bates, A.B.,	Latin, French, Music,		Glastonbury, Conn.
Katherine C. Berry, A. B.,	French, Latin,	368	Laurel Street.
Daisy T. Day, A. B.,	Algebra, German,	26	No. Main St., W. H.
Annie I. Robertson, B. S.,	Domestic Science,	73	Church Street.
Helen W. Simonds,	English, German,	63	Imlay Street.
Elsie P. Thayer.	Bookkeeping, Algebra,	1566	Broad Street.
Grace V. Thompson, A. B.,	Algebra, Latin,	30	Oakland Terrace.
Faith R. Talcott,	Algebra, Latin,		Talcottville, Conn.
P. Elizabeth Goodspeed,	English,	126	Wethersfield,
Louise W. Dodge, A. B.,	Algebra, English,	719	Asylum Avenue.
Margaret A. Dutting, B.S.,	French, German,	122	Garden Street.
Agnes A. Haha, A. B.,	Mathematics,	57	Russ Street.
Lilian Holbrook, A. B.,	Mathematics, History,	748	Asylum Avenue.
Marian C. Ladner, A. B.,	English,	63	Imlay Street.
Ora W. Parent, B. L.,	French.	80	Church Street.
Olive Phraner, A. B.,	German,	30	Oakland Terrace.
Katherine Stevens, A. B.,	Mathematics, Science,	25	Ashley Street.
Margaret L. Warner, A. B.,	French, German,	236	Oxford Street.
Evelyn Waterbury, A. B.,	Latin, History,	203	Sargeant Street.
Hope Willson,	Physical Training,		Manchester, Conn.
Gertrude F. Merrill,	French, German,	722	Asylum Avenue.
Lucy C. Gowin,	English, History,	19	Spring Street.
Annie L. Holcomb,	Secretary,	154	Capitol Avenue.
Grace E. Hyde,	Principal's Assistant,	38	Whiting Street.
Grace E. Griffiths,	Assistant Librarian,	24	May Street.
Mabel C. Bartlett,	Stenographer,		Warehouse Point, Ct.
H. Mary Spangler,	Librarian,	40	Capitol Avenue.
Florence A. Lewis,	Official Recorder,	114	Barker Street.
Abina M. Toomey,	In charge of book-room,	219	High Street.

THE SCHOOL YEAR.

TERMS, VACATIONS AND HOLIDAYS FOR HIGH SCHOOL AND DISTRICT SCHOOLS.

There shall be thirty-nine weeks in each School year beginning on the second Wednesday in September in each year.

There shall be three vacations, one beginning the day before Christmas, and closing the day after New Years; one beginning Good Friday, and closing on the second Monday after Easter Sunday and one beginning the Saturday following the third Friday in June and closing on the Tuesday preceding the second Wednesday in September.

The regular holidays shall be all Saturdays, Thanksgiving Day, and the day following, Washington's Birthday and Memorial Day. No school shall be suspended on any other occasion except for special reasons, and then only by permission of the Superintendent of Schools.

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RULES OF THE GOVERNMENT OF DISTRICT SCHOOLS.

SESSIONS AND EXERCISES.

SECTION 1. The forenoon sessions of all District Schools shall open at 9 o'clock a.m. and close at 12 o'clock, noon. The afternoon sessions shall begin at 1:30 o'clock p.m. and close at 3:30 o'clock. The pupils of the Kindergarten department shall be required to attend but one session each school day. No pupil shall be detained after the regular hour of dismissal at noon, and not later than 4 o'clock in the afternoon.

SEC. 2 There shall be a recess of fifteen minutes in all departments of the schools each forenoon session, and a recess of ten minutes in the primary department during each afternoon session. During recess the pupils shall be required to take exercise in the open air and they shall not be prohibited or excused from doing so, except on account of ill health or extremely bad weather.

SEC. 3 There shall be religious exercises in each school at the morning session, consisting of reading of the Scriptures and prayer by the teacher.

SEC. 4 The regular time for the admission of pupils to the first grade of the District Schools shall be the first week of each term and at such other times as the Superintendent of Schools and the District Superintendents may determine.

SEC. 5 Pupils of the District Schools shall be classified according to the judgement of the District Superintendent.

SEC. 6 Each District School is free to all children of school age residing in the district. To others tuition is charged. Applicants for admission must present a certificate of successful vaccination by inoculation, signed by a reputable physician.

CONDUCT OF THE SCHOOLS.

SECTION 1. The title of the educational head of each district shall be "District Superintendent," and such District Superintendent of each district shall have charge of the order, discipline and arrangement of studies in the schools under him. Each subordinate teacher shall be responsible to the head of the school to see that his instructions are faithfully obeyed. Special rules for the discipline of the respective schools may be prescribed when not in conflict with the regulations of the Board of School Visitors and subject to the approval of that board.

SEC. 2 All the school rooms shall be opened and every teacher shall be present at his or her school room fifteen minutes before the appointed hour for the opening of each session. The time of the teacher during school hours shall be exclusively devoted to the duties of the school.

SEC. 3 The head teacher of each room shall keep a register of the name, age, daily attendance, and date of admission of each pupil, arrang-

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ing the same so that the Superintendent of Schools may see at once the whole number registered, the number present at each session and the average daily attendance and the per cent. of attendance for each month, term and year.

SEC. 4 Teachers shall investigate all cases of absence or tardiness and may require an excuse for the same from the parent or guardian, in writing or in person.

SEC. 5. Teachers shall seek, in all cases, to govern their pupils by moral means, but in cases where such means, faithfully used, shall fail to produce reformation, corporal punishment may be administered by permission of the District Superintendent.

SEC. 6. Pupils should be regular in attendance, punctual, cleanly in person, industrious, respectful and obedient, avoiding rude and boisterous conduct in and about the school building, and on the way to and from school.

SEC. 7. Pupils hall not be allowed to leave school before the regular hour of dismissal, except when it is necessary on account of illness or some other imperative reason and in no case for the purpose of attending any place of public amusement.

SEC. 8. Pupils guilty of profanity, obscenity, truancy, violent opposition to authority, or of wilfully cutting or defacing school property may be temporarily suspended by the District Superintendent and report made to the parent or guardian. If the example or influence of any pupil shall be injurious to a school and reasonable effort for reformation prove unavailing, the parent or guardian must be notified, and in case no improvement is then secured, the pupil may be reported to the district committee for suspension or expulsion from the school.

SEC. 9. Promotions from one class to another shall be based upon tests having particular reference to the scholarship and attainments of the pupils, together with the judgment of the District Superintendent and teachers as to general qualifications.

SEC. 10. Public exercises of a popular character, as shall best be adapted to exhibit the scholarship and attainments of the pupils, and maintain a lively interest on the part of parents and others in the prosperity of the several schools, may be given at the option of the District Superintendents, and at such times as the Superintendent of Schools may order.

SEC. 11. The closing week of the school year shall be known as "Commencement Week", and all schools will have graduation exercises that week.

SEC. 12. No one shall be allowed on the school premises to offer anything for sale, for exhibition, or to solicit subscriptions, or give public notices not appertaining to the school.

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COURSE OF STUDY, TEXT-BOOKS.

SECTION 1. The studies pursued in the district schools shall be Reading. Writing, Spelling, Elementary Science, Grammar, Arithmetic, Geography, American History, Drawing, Woodworking, Sewing, Cooking, Music and the elements of Physiology and Hygiene.

SEC. 2. The text-books in all the district schools shall be such books as have been prescribed and approved by the Board of School Visitors.

TEACHER'S CERTIFICATE.

SECTION 1. No teacher shall be added to the teaching force of the public schools of Hartford, without having a certificate from the State Board of Education.

SEC. 2. The Board of School Visitors will issue a town certificate on presentation of a state cerificate, such certificate to be limited to six years, renewable on recommendation of District Superintendent.

SEC. 3. Permanent certificates will be issued to all teachers in the public schools of Hartford who have served ten years, the District Superintendent to recommend such issuance.

HARTFORD PUBLIC HIGH SCHOOL.

ADMISSION BY CERTIFICATE.

SECTION 1. Candidates for the High School must be twelve years old. If from the Brown, South, Henry Barnard, West Middle, Arsenal, Washington Street, Southwest, Northeast or Northwest Schools they must be thoroughly instructed in the studies required to be taught in such schools by the regular use of the text-books prescribed by the Board of School Visitors.

SEC. 2. If candidates are from private schools in the city of Hartford notification must have been given to the Superintendent of Schools in October of the year preceding, of the intention of such schools to present candidates for the High School. The candidates must be thoroughly instructed in the studies required to be taught in the Public Schools of Hartford, and have pursued a course of studies satisfactory to the Board of School Visitors. The Superintendent of Schools may inspect or test the work at such times as he may see fit.

SEC. 3. Candidates for the High School must present a certificate from the District Superintendent or Principal of the school which they last attended, certifying to the requirements herein named. Such certificates must have the authorization of the Board of School Visitors, which is responsible for the character of the tests as well as for the maintenance of the proper standard. Candidates not provided with such certificates must pass the prescribed examination.

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ADMISSION BY EXAMINATION.

SECTION 1. The examination of uncertified candidates for the High School shall be in Reading, Writing, Spelling, Arithmetic, Geography, Grammar, and the History of the United States. Such examinations shall be held previous to the Fall term on such days as the Principal of the High School, with the approval of the Superintendent of Schools may fix. The Superintendent of Schools may examine, if he sees fit, the series of questions prepared for the candidates for admission, and no list of such questions shall be used without his approval. He may also examine all papers of candidates who have failed at their examination, and if he concur with the Principal their rejection shall be final. Otherwise they may be admitted to a second examination.

SEC. 2. Candidates from schools outside the city or state may be admitted after passing an examination similar in character to that given other candidates, but if desiring to enter the Senior, Junior, or Third Class, the examination will be in two parts: First, a written examination of essentially the same grade and character as that given our own pupils. Second, an examination of the course which they had before coming to this school, of their scholarship record, and statement from former teachers, if pupils bring such, together with an oral examination to show their ability in ways that could not be indicated by their written examination.

SCHOLARSHIP, ABSENCES, DEPORTMENT.

SECTION 1. It is expected that those who enter the school will ordinarily join one of the regular classes in any department, take the studies prescribed for that particular class, and attend all the school sessions. The Superintendent of Schools, however, may have discretionary power in special cases where delicate health requires it, to allow pupils to be irregular both as regards attendance and recitations. He may also allow pupils who are unable to attend school during full sessions, to pursue one or more branches of study, provided those branches of study are taught in the school, and that such pupils are qualified to enter classes already existing, and provided also, that the irregular pupils mentioned in this section must maintain a good standing in each of the studies pursued.

SEC. 2 For every ten absences (excluding those ordered by the Board of Health) during the school year one twentieth of the card average shall be deducted, but in reckoning these absences five or more successive days of absence due to illness shall not be counted if the physician's certificate concerning that illness shall be furnished.

SEC 3. Any pupils who shall have received thirty demerits in deportment during a period of sixty consecutive school days, shall be suspended from school for such time as the Principal shall direct.

SEC. 44. Parents of pupils will be informed of the standing of their children by individual reports, issued at intervals of about six weeks.

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These reports must be returned with the signature of the parent or guardian.

SESSIONS, OUT-OF-TOWN PUPILS.

SECTION 1. The sessions of the High School shall be from 8:30 o'clock in the morning until 1 o'clock p.m. for the Senior, Junior and Third Classes, and from 1:15 o'clock p.m. until 5 o'clock for the Fourth Class.

SEC. 2. Pupils from out of town will be charged a tuition fee of $3.25 per week, which includes the use of text-books. Out-of-town pupils boarding or living temporarily in the city will be charged the usual tuition fee.

SCHOOL OFFICERS AND TEACHERS.

FIRST SCHOOL DISTRICT

BROWN SCHOOL.

Nos. 160-180 Market Street.

COMMITTEE.

George C. Bailey, M.D., *Chairman*, 65 Church Street.
Lafayette J. Robertson, 73 Church Street.
Benjamin B. Cion, 985 Main Street.
Clerk—John F. Hogan, 53 Grove Street.
Treasurer—Hartford Trust Company, 764 Main Street.
Collector—Otis J. Hart, 114 Pearl Street.
Rate-maker—Dennis I. Murphy.

TEACHERS.

Charles L. Ames,	District Supt.,	1281	Main Street.
Henry M. Mayer,	Assistant Principal,	126	Windsor Avenue.
Frederick A. Curtis,	Teacher of Writing,	5	Florence Street.
Ralph L Baldwin,	Teacher of Music,	81	Tremont Street.
James D. Price,	Teacher of Music,		Warehouse Point.
Clara M. Goodman,	Teacher of Art,	52	Atwood Street.
Mabel H. Ela,	Secretary,	78	Church Street.
Alida B. Clark,	Grade IX,	130	Windsor Avenue.
Hannah F. Bailey,	Grade IX-VIII,	248	Laurel Street.

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Adella M. Ensign,	Grade VIII,		East Hartford.
Mary E. Emerson,	Grade VII,	63	Girard Avenue.
Josephine F. St. John,	Grade VII,	23	So. Marshall St.
Alice M. Rourke,	Grade VI,	238	Sigourney Street.
Kate A. Callahan,	Grade VI,	86	Ann Street.
Lucy M. Parker,	Grade VI,	122	Wethersfield Ave.
Annie L. Guilfoil,	Grade V,	7	Linden Place.
Julia W. Mansuy,	Grade V,		West Hartford.
Josephine M. Drago,	Grade IV,	275	Garden Street.
Nellie M. Easland,	Grade III-II,	525	Blue Hills Ave.
Charlotte S. Piper,	Grade II-I,	12	Chapin Place,
Francesca A. Henke,	Grade II-I,	123	Retreat Ave.
Mindell Labensky,	Grade IV,	200	Bond Street.
Babette Weider,	Grade IV,	134	Woodland Street.
Mary S. Waterman,	Grade III,	96	Sargeant Street.
Kate S. Murphy,	Grade III,	544	Prospect Avenue.
Grace M. Flynn,	Grade III,	95	Allen Place.
M. Alice Sherman,	Grade III,	199	Oxford Street.
Hariet E. Pease,	Grade II,	329	Laurel Street.
M. Matilda Kane,	Grade II,	94	Washington St.
Mary C. Ryan,	Grade II,	71	Sigourney Street.
Rose A. Maloy,	Grade II,	144	Wethersfield Ave.
Hester M. Kibbe,	Grade II,	248	Laurel Street.
Florence M. Spencer,	Grade II,	46	Capitol Avenue.
Mabel I. Reilly,	Grade I,	89	Beacon Street.
Minna Hellman,	Grade I,	502	Windsor Avenue.
Winnifred A. Ryan,	Grade I,	374	Vine Street.
Mary E. Robbins.	Grade I,		Rocky Hill.
Julia C. Spellacy,	Grade I,	115	Wethersfield Ave.
Cornelia A. Morris,	Grade I,	52	Washington St.
Anna M. Conti.	Assistant,	60	Temple Street.
Winnibel M. Clark.	Kindergarten Principal,	130	Windsor Avenue.
Evelyn E. Atwood,	Assistant Kindergarten,		Springfield, Mass.
Mary A. Bissell,	Assistant Kindergarten,	24	Vernon Street.
Lillian F. McLean,	Assistant Kindergarten,	17	Haynes Street.
Louise E. Conner,	Assistant Kindergarten,		East Hartford.
Helen E. Royce,	Assistant Kindergarten,	3	Pliny Street.
Mabel M. Johnson,	Assistant Kindergarten,	64	Bushnell Street.

SECOND SCHOOL DISTRICT

SOUTH DISTRICT SCHOOLS.

COMMITTEE.

Henry C. Dwight, *Chairman*, 252 Asylum Street.
James H. Naylor, M.D., 3 Main treet.
Richard J. Kinsella, 4 Wethersfield Avenue.
Clerk—George H. Gilman, 49 Pearl Street.
Treasurer—Thomas A Shannon, 49 Pearl Street.
Collector—Otis J. Hart, 114 Pearl Street.
Auditors—James S. Belden, 42 Buckingham Street; John J. Wright, 124 Wethersfield Ave.
Rate-maker—Robert D. Bone, 114 Pearl Street.

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WADSWORTH STREET SCHOOL.

No. 36 Wadsworth Street.

Louis H. Stanley,	District Superintendent,	103	Wethersfield Ave.
Alexis A. Kelsey,	Assistant Principal,		West Hartford.
Irwin S. Light,	Teacher of Writing,	83	Elm Street.
Wm. M. Cook,	Teacher of Writing,	33	Preston Street.
Jessie C. Morse,	Manual Training,	78	Church Street.
Anna L. Moran,	Physical Culture,	273	Trumbull Street.
Harry B. Loyd,	Physical Culture,	85	Elm Street.
Ethel A. Elliott,	Teacher of Drawing,		Middletown, Ct.
William D. Monnier,	Teacher of Music,	64	Webster Street.
Eleanore M. MacGregor,	Teacher of Music,	18	Congress Street.
Grace T. Mellberger,	Teacher of Music,	61	Madison Street.
Edith W. Dwight,	Assistant,	462	Washington St.
Mary G. Foster,	Records,	90	Hudson Street.
Cora A. Hillery,	Office Assistant,	207	Sigourney Street.
Raymond H. Bentley,	Grade IX,	219	Ashley Street.
Mary I. Patterson,	Grade IX,	40	Capitol Avenue.
Victoria B. Jamieson,	Grade IX,		Middletown, Ct.
Edwin B. Judd,	Grade IX,	187	Jefferson Street.
Mary L. Linehan,	Grade IX,	64	Buckingham St.
Mary J. Kane,	Grade VIII,	94	Washington St.
Sarah A. Stevens,	Grade VIII,	15	Preston Street.
Ella A. Parish,	Grade VIII,	778	Broad Street.
Mary A. Paige,	Grade VIII,		The Goodwin.
Caroline L. Gridley,	Grade VII,	40	Capitol Avenue.
Ann O'Loughlin,	Grade VII,	28	Capitol Avenue.
Katherine Stokes,	Grade VII,		The Linden.
Bertha Brockway.	Grade VII,		West Hartford.
Mary E. Barber	Grade VI,	73	Wadsworth St.
Lena R. Nash.	Grade VI,	161	Seymour Street.
Elizabeth M. Guinan,	Grade V,	16	Sherman Street.
Charlotte B. Case,	Grade V,		Wethersfield Ave
M. Elizabeth Tate,	Grade V,		Windsor Locks.
Mary E. Noonan.	Grade IV,	37	Elm Street.
Elizabeth Carmody,	Grade IV.	94	Franklin Avenue.
Ellen C. Dwyer,	Grade IV.	186	Franklin Avenue.
Hannah P. O'Flaherty,	Grade IV,	140	Main Street.
Mary A. Maloy,	Grade III.	144	Wethersfield Ave.
Kathryn P. Fox,	Grade III,	2	Stanley Street.
Daisy F. Tobey,	Grade III,	149	Retreat Avenue.
Florence M. Wadsworth	Grade II,		Hockanum.
Minnie B. Chamberlain,	Grade II.	84	Capitol Avenue
Anna B. Geer.	Grade II,	187	Jefferson Street.
Alice N. Fowler.	Grade II.	34	Allen Place.
Nora J. McEvoy.	Grade II.	50	Shultas Place.
Nellie T. Cody.	Grade I,	161	Babcock Street.
Anna A. Bubser	Grade I.	172	Putnam Street
Katherine L. Newton.	Grade I.	126	Collins Street
Effie M. Hollingsworth,	Prin. Kindergarten.	260	Oxford Street.
Florence E. Whitman.	Asst. Kindergarten.	3	Main Street.
Helen F. Greenberg.	Asst. Kindergarten.	518	Prospect Avenue
Louise Smith.	Asst. Kindergarten.	11	Marshall Avenue.
Bessie L. Taft.	Asst. Kindergarten.	46	Collins Street.
Harriet E. Price.	Asst. Kindergarten.		East Hartford

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NEW PARK AVENUE SCHOOL.

No. 55 New Park Avenue.

Frank B. Day,	Principal,	10	Fales Street.
Anna M. Johnson,	Office Assistant,	111	Beacon Street.
Janet E. Gray,	Grade VIII,	75	Campfield Avenue
Louise D. Stevens,	Grade VIII,		Newington Jct.
Helen McClunie,	Grade VII,	99	No. Beacon St.
Rose M. Dwyer,	Grade VII,	815	Asylum Street.
A. Marie Hansen,	Grade VI,	45	Ellsworth Street.
Cora J. Seaver,	Grade VI,		Wethersfield.
E. Ralphine Fothergill,	Grade V,	208	Smith Street.
Wenna L. Smith,	Grade V,	439	Capitol Avenue.
Lillian M. Squires,	Grade V,	170	Smith Street.
Lucy E. Fothergill,	Grade IV,	208	Smith Street.
Mary A. W. Brand,	Grade IV,	136	Putnam Street.
Ruth Johnson,	Grade IV,	756	Park Street.
Mary A. Riley,	Grade III,	8	Imlay Street.
Marjorie A. Wall,	Grade III,	81	Evergreen Street.
Josephine Barchfeld,	Grade III,	46	Norfolk Street.
Jessie D. Griswold,	Grade II,		Rocky Hill.
Sarah L. Connor,	Grade II,	56	Hazel Street.
Agnes G. Egan,	Grade II,	121	Boulevard
Minnie J. Gilbert,	Grade I,	18	Greenfield Street.
Harriet L. Seymour,	Grade I,	26	Madison Street.
Anna P. Doolittle,	Grade I,	778	Broad Street.
Kate P. Safford,	Prin. Kindergarten,		Windsor.
Mary A. Kennedy,	Asst. Kindergarten,	93	Edwards Street.
Helen A. Tracy,	Asst. Kindergarten,	511	Farmington Ave.

LAWRENCE STREET SCHOOL.

No. 85 Lawrence Street.

Winthrop Buck, A.M.,	Principal,		Wethersfield.
Ruth Marlor,	Office Assistant	12	Adelaide Street.
Lucy E. Cobey,	Grade VIII,	333	Wethersfield Ave.
Lillian A. Andrews,	Grade VIII,	167	Beacon Street.
Eliza S. Geer,	Grade VII,	863	Asylum Avenue.
Anna B. Curry,	Grade VII,	67	Congress Street.
Clara L. Wagner,	Grade VII,	28	Charter Oak Pl.
Mary E. McLean,	Grade VI,		East Hartford.
Olive M. Cannon,	Grade VI,	61	Hungerford St.
Kate Kibbe,	Grade VI,	248	Laurel Street.
Nellie M. Hogan,	Grade V,	20	Ellsworth Street.
Christine F. Glen,	Grade V,	56	Seymour Street.
Anna J. Fagan,	Grade V,	66	Hungerford St.
Margaret J. McGowan,	Grade IV,	77	Washington St.
Helen E. Graves,	Grade IV,	456	Washington St.
Marguerita O'Brien,	Grade III,	26	Cedar Street.
May I. O'Brien,	Grade III,	26	Cedar Street.
N. Granville O'Brien,	Grade III,	27	Lafayette Street.
Elizabeth A. Kent,	Grade III,	16	Oak Street.
Catherine E. Conway,	Grade II,	108	Babcock Street.
Annie L. Laurie,	Grade II,	60	Hungerford St.

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Irene E. Squires,	Grade II,	170	Smith Street.
Margaret T. Carey,	Grade I,	43	May Street
Mabelle N. Storrs,	Grade I,	393	Sigourney Street.
Edith M. Giddings,	Prin. Kindergarten,	91	Linnmore Ave.
Florence Long,	Asst. Kindergarten,	17	Windsor Avenue.
M. Genevieve Flynn,	Asst. Kindergarten,	267	Farmington Ave.
Harriet B. Sprague,	Asst. Kindergarten,	36	Huntington St.
Arline D. Tanitor,	Asst. Kindergarten,	142	Jefferson

WETHERSFIELD AVENUE SCHOOL

No. 289 Wethersfield Avenue.

Mary Marchant,	Principal,	35	Whitney Street.
Elizabeth S. Shaffer,	Office Assistant,	35	Brown Street.
Henry J. Hinchliffe,	Grade IX,		East Hartford.
Clifton C. Brainard,	Grade IX,	48	Huntington St.
Harriet E. Burnham,	Grade VIII,		Bloomfield.
Allys E. Tyler.	Grade VII,	54	Main Street.
Susanne R. Cobey,	Grade VII,	333	Wethersfield Ave.
Jessie Buckmaster,	Grade VI,	3	Main Street.
Emily Dwyer,	Grade VI,	815	Asylum Street.
Margaretha Sporer,	Grade VI,	112	Park Terrace.
Mary H. Smith,	Grade V,	90	Buckingham St.
Sarah M. Guilfoil.	Grade V,	33	Magnolia Street.
Margaret M. McEvoy,	Grade IV,	50	Shultas Place.
Anna L. Langdon,	Grade IV,	38	Madison Street.
Martha C. Smith.	Grade III,	33	Madison Street.
Nellie B. Washburn,	Grade III,	430	Washington St.
Grace Connolly,	Grade II,	322	Wethersfield Ave.
Martha Spellacy.	Grade II,	115	Wethersfield Ave.
Katherine G. Conway,	Grade II,	109	Franklin Ave.
Mabel E. Laurie,	Grade I,	52	Hungerford St.
Mary E. Cady.	Grade I,	25	Madison Street.
Helen M. Barchfeld.	Grade I.	46	Norfolk Street.
Anna F. Flynn,	Prin. Kindergarten,	267	Farmington Ave.
Grace H. Taylor,	Asst. Kindergarten,	33	Sisson Ave.
Florence A. Warner,	Asst. Kindergarten,	301	Asylum Avenue.
Marguerite L. Jones,	Asst. Kindergarten,	303	Sargeant Street.

THIRD SCHOOL DISTRICT

HENRY BARNARD SCHOOL.

No. 249 High Street.

COMMITTEE.

Frank S. Kellogg, *Chairman*, 252 Asylum Street.
Ulysses H. Brockway, 132 State Street.
James P. Berry, 17 Windsor Avenue
Clerk—James O'Neil, 62 Church Street.
Treasurer—Security Co., 62 Pearl Street.

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Collector—Otis J. Hart, 114 Pearl Street.

Auditors—Joseph D. Collins, 98 Ann Street, Wm. G. Baxter, Edwards Street.

Rate-maker—Joseph E. O'Neil, P.O. Box 1137.

TEACHERS.

Solon P. Davis,	District Supt.	86	Edwards Street.
Anna A. Prior,	Grade IX,	3	Farmington Ave.
Gladys P. Pierce,	Grade IX,	149	High Street.
Elizabeth M. Worthington	Grade VIII,	12	Florence Street.
Winnifred Kenney,	Grade VIII,	48	Sumner Street
M. Rose Jepson,	Grade VII,	57	Brooks Street.
Lucy Whiton,	Grade VII,		East Hartford.
Etta S. Smith,	Grade VI,	841	Asylum Avenue.
Marie H. Daly,	Grade VI,	119	Oakland Terrace.
Hope Littlefield,	Grade VI,	232	Garden Street.
Mary E. Guinan,	Grade V,	16	Sherman Street.
Frances A. McEvoy,	Grade V,	44	Hamilton Street.
Olga R. Kullgren,	Grade V,	195	Bond Street.
Lora Phinney,	Grade V,		East Hartford.
Mary W. Hamlin,	Grade IV,	57	Russ Street.
Esther Kullgren,	Grade IV,	195	Bond Street.
Margery Tracy,	Grade IV,	841	Asylum Ave.
Nellie C. Smith,	Grade IV,	196	High Street.
Annie C. Britton,	Grade IV-III,	40	Deerfield Ave.
Susan P. Clapp,	Grade III,		Goodwin Bldg.
Grace Coleman,	Grade III,		East Hartford.
Mary B. Stevens,	Grade III,		Hockanum.
Christine A. Holman,	Grade III,	275	Collins Street.
Jennie Dickinson,	Grade II,		Glastonbury.
Sarah A. Backus,	Grade II,	22	Ashley Street.
Charlotte A. Butler,	Grade II,	151	Retreat Ave.
Lillian Calderwood,	Grade II,		Thompsonville.
Ella L. Coughlin,	Grade I,	194	High Street.
Louisa E. Weberbauer,	Grade I,	94	Washington St.
Mary E. Lacy,	Grade I,	58	Hawthorn Street.
Bertha M. Taylor,	Grade I,	81	Sigourney Street.
Helen G. Loomis,	Grade I,		Farmington.
Mary K. Lawler,	Grade I,		Windsor Locks.
Ruth H. Hallborg,	Primary Asst.	131	Putnam Street.
Annie Fisher,	Foreign Department,	12	Pavilion Street.
Louise T. Guinan,	Special Department,	84	Allen Place.
Mary C. Knapp,	Prin. Kindergarten.	49	Sigourney Street.
Edna C. Smith,	Asst. Kindergarten,	50	Windsor Ave.
Mabel J. Corwin,	Asst. Kindergarten,		Springfield, Mass.
Anne Moore,	Asst. Kindergarten,		Talcottville, Ct.
Mary P. Gillette,	Prin. Kindergarten.	26	Atwood Street.
Florence S. Atkins,	Asst. Kindergarten,	711	Prospect Ave.
Ellen E. Welles,	Asst. Kindergarten,		Glastonbury.
Marguerite B. Smith,	Asst. Kindergarten,	722	Asylum Ave.
Ralph L. Baldwin,	Teacher of Music,	81	Tremont Street.
Jennie E. Langdon,	Teacher of Music,	16	Magnolia Street.
Caroline R. Watson,	Teacher of Drawing,	22	Ashley Street.
Eva L. Miller,	Teacher of Writing,	107	Edwards Street.
Bertha H. Klinger,	Teacher of Science,	133	Ashley Street.

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Harry Herzfeld,	Physical Director,	23	Pavilion Street.
Sara M. Holbrook,	Visiting Teacher,		School of Pedagogy.
Dr. Geo. E. Dawson,	Special Investigator,		Springfield, Mass.
Edith S. Hale,	Secretary,	29	Belden Street.

FOURTH SCHOOL DISTRICT

WEST MIDDLE SCHOOL.

No. 927 Asylum Avenue.

COMMITTEE.

William H. Corbin, *Chairman*, 80 Pliny Street.
Herbert H. White, 783 Main Street.
Charles Welles Gross, 914 Asylum Avenue.
Clerk—Edward W. Beardsley, 664 Main Street.
Treasurer—Edward C. Frisbie, 49 Pearl Street.
Collector—Otis J. Hart, 114 Pearl Street.
Auditors—Samuel E. Elmore, 283 Main Street, Charles H. Field, 981 Asylum Avenue.
Rate-maker—Howard H. Keep, 49 Pearl Street.

TEACHERS.

Willis I. Twitchell, B.A.	District Supt.,	31	Atwood Street.
Esther C. Perry,	Assistant,	179	Beacon Street.
Bessie A. Brown,	Grade IX,	889	Asylum Ave.
Rosina C. Childs, B.A.,	Grade IX,	24	Atwood Street.
Kate L. Smith,	Grade VIII,	11	Marshall Street.
Rosilla R. Newton,	Grade VII,	126	Collins Street.
Jessie I. Kennicott,	Grade VII,	166	Ashley Street.
Clara M. Klinger,	Grade VI,	133	Ashley Street
Bertha M. Ferris,	Grade V,		Bloomfield.
Edith M. Lines,	Grade V,	197	Sigourney Street.
Bertha A. Seymour,	Grade IV,	4	Collins Street.
Louise H. Kinsman,	Grade IV,	83	Whiting Street. W. H.
Marion K. Tracy,	Grade III,	197	Sigourney Street.
Mabel F. Terry,	Grade II,	74	Oxford Street.
Harriet B. Bramley,	Grade I,		Elmwood.
Lucy A. Allen,	Grade I,	133	Sargeant Street.
Anna W. Bullard,	Prin. Kindergarten,	20	Niles Street.
Francilla J. Goodenough	Asst. Kindergarten,	20	Niles Street.
Flora T. Smith,	Secretary,	201	Sigourney Street.
Ralph L Baldwin,	Teacher of Music,	81	Tremont Street.
James D. Price,	Teacher of Music,		Warehouse Point.
Clara L. Williams,	Teacher of Drawing,	60	Lorraine Street.
Mabel E. Clark,	Teacher of Drawing,	20	Atwood Street
Bertha H. Klinger,	Elementary Science,	133	Ashley Street.
Cora L., Perry,	Teacher of Writing,	175	Capitol Ave.
William N. Howard,	Physical Training,		Springfield.
Fred G. Blakeslee,	Military Director,	291	Sargeant Street.

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NOAH WEBSTER SCHOOL.

No. 5 Cone Street.

James W. Freeman, B.S.	Principal,	8	Park Terrace,
Lillian R. Conant,	Grade IX,	139	Kenyon Street.
Edna G. Smith,	Grade IX,	125	Kenyon Street.
Elsie B. Cruttenden,	Grade VIII,		West Hartford.
Belle S. Beardsley,	Grade VII,	29	Girard Avenue.
Carrie E. Hollister,	Grade VII,	234	Wethersfield Ave.
Edith W. Bean,	Grade VI,	25	Webster Street.
Mary L. C. Stark,	Grade V,	133	Sargeant Street.
Anna C. Story,	Grade V,		Wethersfield.
Mary R. Leonard,	Grade IV,	39	Niles Street.
Clara B. Dwight,	Grade III,	80	Capitol Avenue.
Mabel H. Adams,	Grade II,		Wethersfield.
Kate P. Wheelock,	Grade I,	236	Seymour Street.
Marti K. Wilson,	Prin Kindergarten,	242	Ashley Street.
Harriet E. Griswold,	Asst. Kindergarten,	197	Collins.
Martha S. Lewis,	Secretary,	237	Ashley Street.

FIFTH SCHOOL DISTRICT

ARSENAL SCHOOL.

No. 180 Windsor Avenue.

COMMITTEE.

Curtis P. Gladding, *Chairman*, 16 Belden Street.
*John F. Sullivan, 25 Pavilion Street.
Morris Older, 285 Garden Street.
Clerk—Edward J. Flynn, 18 Center Street.
Treasurer—Robert C. Glazier, 67 Edwards Street.
Collector—Otis J. Hart, 114 Pearl Street.
Auditors—Isaac Samuelson, G. Adolph Kropp.
Rate-maker—D. J. Murphy, 114 Pearl Street.

*Died October 22, 1913.

TEACHERS.

B. Norman Strong,	District Supt.,	226	Edgewood Street.
Maud E. Davis,	Grade IX,	46	Irving Street.
Grace A. Robarts,	Grade IX,	417	Albany Avenue.
J. Allen Whipple,	Grade IX,	105	Ann Street.
Mary E. Griswold,	Grade VIII,		Berlin.
Mary F. Connor,	Grade VIII,	347	Wethersfield Ave.
Margaret R. C. Kenefick,	Grade VIII,	89	Atwood Street.
Emma D. Johnston,	Grade VII,	16	Magnolia Street.
Louise A. Scofield.	Grade VII,	79	Church Street.
Sadie P. White,	Grade VII,	149	Windsor Avenue.

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Marguerite C. Ayres,	Grade VII,	79	Church Street.
Alice E. Scott,	Grade VI,	387	Windsor Avenue.
Julia M. Toohey,	Grade VI,	23	Florence Street.
Martha A. Patterson.	Grade VI,	14	May Street.
Sadie C Hackett,	Grade VI,		Wapping, Conn.
Ellen A. Moriarty,	Grade V,	9	Gray Street.
Eva L. Booth,	Grade V,	34	Mahl Avenue.
Helen E. Nemiah.	Grade V,	17	Plainfield Street.
Charlotte Moore,	Grade V,	100	Ann Street.
Alice M. Thrall,	Grade IV,		Windsor.
Marion T. Fitzgerald,	Grade IV,	62	Edwards Street.
Meliena Lowry,	Grade IV,	23	So. Marshall St.
Sara G. Finley,	Grade IV,	84	Chestnut Street.
Ruth L. Hall,	Grade IV,	528	Windsor Avenue
Sarah Kopleman,	Grade IV,	28	Winthrop Street.
Nellie L. Rogers,	Grade III,	97	Westland Street.
Anne B. Daley,	Grade III,	417	Edgewood Street
Sarah J. Callahan,	Grade III,	321	Windsor Avenue.
Florence M. Brown,	Grade III,	21	Pliny Street.
Florence Carter,	Grade III,	26	May Street.
Helen F. Curtin,	Grade II,	25	Irving Street.
Henrietta Gardiner,	Grade II,	61	Windsor Avenue
Katherine A. Williams,	Grade II,	93	Blue Hills Ave.
Mary E. Silverman,	Grade II,	42	Williams Street.
Corinne Smith,	Grade II,	64	Belden Street.
Etta M. Dow,	Grade II,	9	Florence Street.
Frances M. Williams,	Grade I,	93	Blue Hills Ave.
Elizabeth McGehan,	Grade I,		Silver Lane.
Theresa H. Clancy,	Grade I,	128	Homestead Ave.
Katherine T. Moriarty,	Grade I,	9	Gray Street.
Nellie A. Mulligan,	Grade I,	36	Mahl Avenue.
Mary E. Kilfoil,	Grade I,	15	Vineland Terrace
Anne Burr Wilson,	Prin. Kindergarten,	242	Ashley Street.
Alice E. Hawkins,	Asst. Kindergarten,	102	Fairfield Ave.
Alice M. Creedon,	Asst. Kindergarten,	105	Oak Street.
Gertrude H. Taussig,	Asst. Kindergarten,	106	Homestead Ave.
Elizabeth Fisher,	Asst. Kindergarten,	100	Huntington St.
Lottie M. Mahl,	Asst. Kindergarten,	329	Windsor Avenue
Harry Herzfeld,	Physical Director,	23	Pavilion Street
Ithamar Nyland,	Teacher of Drawing,	105	Ann Street.
Eva L. Miller,	Teacher of Writing.	107	Edwards Street
Jennie E. Langdon,	Teacher of Music,	16	Magnolia Street.
Ralph L. Baldwin,	Teacher of Music,	81	Tremont Street.
Dora A. Lublin,	Office Assistant,	72	Village Street.
Mary H. Gladding,	Secreatry,	16	Belden Street.

SIXTH SCHOOL DISTRICT

WASHINGTON STREET SCHOOL.

No. 1 Washington Street.

COMMITTEE.

Alexander Angus, *Chairman*, 31 Warner Street.
Joseph Buths, 39 Pearl Street.

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William Sinnott, 30 Harbison Avenue.
Clerk——John J. Lawler, 161 Franklin Avenue.
Treasurer—Walter L. Wakefield, 252 Asylum Street.
Collector—Otis J. Hart, 114 Pearl Street.
Auditors—Thomas W. Gunshanan, 85 Madison Street, Henry E. Gage, 99 Webster Street.
Rate Maker—Robert D. Bone, 114 Pearl Street.

TEACHERS

Elizabeth J. Cairns,	District Supt.,	80	Clark Street.
A. Belle Butler,	Grade IX,	42	Brownell Avenue.
Elizabeth D. Clark,	Grade IX,	200	Bond Street
Grace Powell,	Grade IX,		New Britain.
Elizabeth G. Driscoll,	Grade VIII,	162	Adelaide Street.
Grace E. Dickerman,	Grade VIII,	83	Campfield Avenue
Venus Montgomery,	Grade VII,	103	Homestead Ave.
Sarah Ball,	Grade VII,	200	Bond Street
Grace A. Cassidy,	Grade VII,	30	Adelaide Street.
Sarah D. Clark,	Grade VI,	20	Atwood Street.
Ruth C. Kibbe,	Grade VI,		Bloomfield.
Maude Montgomery,	Grade V,	103	Homestead Ave.
Marian C. Foster,	Grade V,		Burnside.
Minnie O. Engle,	Grade IV,	408	Sigourney Street.
Sarah B. McCorison,	Grade IV,	56	New Britain Ave.
Barbara L. Black,	Grade III,	89	Lincoln Street.
Margaret Ibell,	Grade IV,		Farmington.
Ellen R. Ahern.	Grade III,	38	Crown Street.
Elizabeth Ahern,	Grade III,	38	Crown Street.
Mary E. Morris,	Grade II,	52	Washington St.
Eva R. Jones.	Grade II,	42	Brownell Avenue.
Jane C. Flynn,	Grade II,	96	Buckingham St.
Lucy S. McGehan,	Grade I,		Silver Lane
Harriet W. Britton,	Prin. Kindergarten,	47	Farmington Ave.
Louise Dennison,	Asst. Kindergarten,	1566	Broad Street.
Marion Pitkin,	Asst. Kindergarten,		So. Windsor.
Flora H. Gebhardi,	Asst. Kindergarten,	32	Seymour Street.
Jennie E. Langdon,	Teacher of Music,	16	Magnolia Street.
Eva L. Miller.	Teacher of Writing,	107	Edwards Street.
Julia Buxton.	Teacher of Drawing,	76	Church Street.

WILSON STREET SCHOOL.

N. Florence Bullock,	Grade VIII,	44	Allen Place.
Kristine Rask.	Grade VII.	148	Putnam Street.
Augusta Holmes.	Grade VI.	24	Hopkins Street.
Nellie T. Mulhall,	Grade V.	118	Main Street.
Mattie Graham.	Grade V-VI.	603	New Britain Ave.
Elizabeth Sinnott.	Grade IV.	26	Harbison Avenue.
M. Ruth McEntee.	Grade III.	17	Chadwick Ave.
Agnes M. Broughel,	Grade II,	36	Ashley Street.
Margaret White.	Grade I,	1149	Broad Street.
Mary O. Dennison,	Prin. Kindergarten,	1566	Broad Street.
Elizabeth Pullar,	Asst. Kindergarten	54	Annawan Street.

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SEVENTH SCHOOL DISTRICT.

SOUTHWEST SCHOOL.

White Street.

COMMITTEE.

Edward F. O'Brien, *Chairman*, 561 Main Street.
John D. Candee, 540 New Britain Avenue.
Henry H. Dickinson, 308 Fairfield Avenue.
Clerk—Jas. W. Gunning, 9 Zion Street.
Treasurer—Connecticut Trust Company.
Collector—Otis J. Hart, 114 Pearl Street.
Auditors—A. R. Bill, W. E. Stanton.

TEACHERS.

Fannie B. Perry,	District Supt.,	647	New Britain Ave.
Rosella A. Hopkins,	Grade IX,		Windsor.
Mary B. Vinton,	Grade VII-VIII,		Burnside.
M. Frances Moran,	Grade VI,	306	Park Street.
Katherine I. Gray,	Grade V,	289	Fairfield Avenue.
Veronica R. Driscoll,	Grade IV-III,	118	Main Street.
Augusta M. Drude,	Grade II-III,	603	Windsor Avenue.
Helen L. Connor,	Grade I-II,		Rainbow.
Gladys Chase,	Grade I,	430	Edgewood Street.
Maude Monnier,	Teacher of Music,	64	Webster Street.

EIGHTH SCHOOL DISTRICT.

NORTHEAST SCHOOL.

No. 54 Westland Street.

COMMITTEE.

Walter G. Camp, *Chairman*, 817 Windsor Avenue.
Francis Coles, 14 Charlotte Street.
Gilbert S. Getz, 226 Barbour Street.
Clerk—James G. Bacon, 106 Capen Street.
Treasurer—Elbert L. Weaver, 408 Windsor Avenue.
Collector—Otis J. Hart, 114 Pearl Street.
Auditor—C. S. Hutchinson, 366 Windsor Avenue.
Rate-maker—William G. Butler, 114 Pearl Street.

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TEACHERS.

Frank A. Brackett,	District Supt.,	42	Clark Street.
Jonas Tomkins,	Asst. Principal,	587	Windsor Avenue.
Bessie M. Williams,	Grade IX,	116	Adelaide Street.
E. Mabelle Clark,	Grade IX,	542	Windsor Avenue.
Ursula I. Paine,	Grade VIII,	34	Capen Street.
Zeita S. Miskill,	Grade VIII,	22	Ellsworth Street.
Eleanor W. Leitch,	Grade VIII,	32	Clark Street.
Ellen Larson,	Grade VII,	25	Webster Street.
Jennie L. King,	Grade VII,	50	Mahl Avenue.
Flora T. King,	Grade VII,	447	Windsor Avenue.
Grace R. Grimes,	Grade VI,		So. Manchester.
Grace Wilson,	Grade VI,		East Hartford.
Marion S. Cosgrove,	Grade VI,	18	Mahl Avenue.
Lulu B. Kalish,	Grade V,	88	Wethersfield Ave.
Helen D. Kirkpatrick.	Grade V,	36	Ellsworth Street.
Minnie F. Eaves,	Grade V,	8	Judson Street.
Gertrude Anderson,	Grade IV,		Wethersfield.
Mary A. Hendron,	Grade IV,	39	Barbour Street.
Ida B. Parker,	Grade IV,	77	Clark Street.
Ethel E. Tryon,	Grade III,	215	Barbour Street.
Eizabeth W. Meggat,	Grade III,		Wethersfield.
Florence L. Stronach,	Grade III,		Wethersfield.
Edna M. Johnson,	Grade III,	97	Westland Street.
Lillian Pease.	Grade II,	42	Clark Street.
Harriet F. Clancy,	Grade II,	128	Homestead Ave.
Millie F. Washburn,	Grade II,	4	Seyms Street.
Claudia Schmidt,	Grade II,		So. Manchester.
Elma K. Graul,	Grade I,	23	Magnolia Street.
Annie R. McDonnell,	Grade I,	20	Capen Street.
Mary A. Readette,	Grade I,	8	E. Greenfield St.
Elva Brockett,	Grade I,		Bristol.
Mabel C. Moore,	Prin. Kindergarten,	721	Blue Hills Ave.
Mary E. Moore,	Asst. Kindergarten,	721	Blue Hills Ave.
Sarah L. Hawkins,	Asst. Kindergarten,	102	Fairfield Avenue.
Helen A. Wyllie,	Asst. Kindergarten,	383	Park Street.
Mary L. Whitehead,	Prin. Kindergarten,		Windsor.
Augusta Rosenthal,	Asst. Kindergarten,	96	Windsor Ave.
Blanche Wallace,	Secretary,	77	Imlay Street.
Katheryn O'Connell,	Teacher of Writing,	40	Elmer Street.
Ruth V. Adams,	Teacher of Elocution,		West Hartford.
Julia Buxton,	Teacher of Drawing,	79	Church Street.
Lelia M. Smart,	Teacher of Music,	24	Sisson Avenue.

NINTH SCHOOL DISTRICT.

NORTHWEST SCHOOL.

No. 684 Albany Avenue, corner Woodland Street.

COMMITTEE.

Alfred P. Clifford, *Chairman*, 213 Sargeant Street.
Harry L. Burr, 385 Sigourney Street.

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Harry U. Tuttle, 249 Blue Hills Avenue.
Clerk—Francis H. Spencer, 8 Greenfield Street.
Treasurer—Security Company.
Collector—Otis J. Hart, 114 Pearl Street.
Auditors—George Calder, 286 Sigourney Street, William E. Osborn 40 Deerfield Avenue.
Rate-maker—Henry C. Bill, 27 Raymond Street.

TEACHERS.

Frank O. Jones,	District Supt.,	57	Oakland Terrace.
J. Isabella Price,	Grade IX,	159	Blue Hills Ave.
L. Eudora Price,	Grade IX,	159	Blue Hills Ave.
George W. Young,	Grade IX,	145	Adams Street.
Cora L. Thorpe,	Grade VIII,		Unionville.
Edith K. Burnett,	Grade VIII,	57	Magnolia Street.
Harriet B. Brown,	Grade VIII,	200	Sargeant.
Anna J. Bergen,	Grade VII,	45	May Street.
Isabel Wyckoff,	Grade VII,		Bloomfield.
Hattie R. Holstein,	Grade VII,	98	Ashley Street.
Alice T. Starr,	Grade VI,		Middletown.
Caroline L. Lawton,	Grade VI,	26	Lenox Street.
Lucy S. Tryon,	Grade VI,	63	Lenox Street
Ella B. Dean,	Grade V,	27	Alden Street.
Helen C. Miner,	Grade V,	162	Edgewood Street.
Bessie P. Ayres,	Grade V,	644	Albany Avenue
Bessie M. Gallup,	Grade IV,	288	Blue Hills Ave.
Alice E. Murray,	Grade IV,	199	Sargeant Street.
Ethel P. Ruddell,	Grade IV,		So. Manchester.
Annie Haddow,	Grade III,	78	Church Street.
Glenna E. Waters,	Grade III,	281	Trumbull Street.
Anna M. Davis,	Grade III,	29	Baltimore Street.
L. Gertrude Waterhouse,	Grade II,	42	Deerfield Avenue.
Gertrude E. Mahl,	Grade II,	57	Atwood Street.
Sarah J. Rawson,	Grade II,	6	Norfolk Street.
Katherine T. Clark,	Grade I,	173	Edgewood Street.
Bessie D. Gibbs,	Grade I,		East Hartford.
Charlotte J Thompson,	Grade I,	143	Oakland Terrace.
Sarah B. Carroll,	Grade I,	29	Baltimore Street.
Edith L. Cook,	Prin. Kindergarten,	19	Summer Street.
Fidelia M. McKinney,	Asst. Kindergarten,	116	Retreat Avenue.
Flora E. Crane,	Asst. Kindergarten,	223	Sisson Avenue
Violet M. Bonner,	Asst. Kindergarten,	63	Atwood Street
Agnes M. Miskill,	Special Coach,	3	Harrison Street.
C Louise Williams,	Teacher of Drawing,	60	Lorraine Street
Mabel E. Clark,	Teacher of Drawing,	20	Atwood Street.
Beulah A. Adams,	Teacher of Writing,		New Haven.
Leila M. Smart,	Teacher of Music,	24	Sisson Avenue.

GRAVEL HILL SCHOOL.

F. Edna Stratton,	Grade I-II,	57	Blue Hills Ave.

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OUT-DOOR SCHOOL.

Clara A. Pausch,	Principal,	69	Sargeant Street.
Stella V. Houghmaster,	Teacher,	12	Clinton Street.

MANUAL TRAINING TEACHERS.

Provided by the City for all the Schools.

WOODWORKING.

Charles C. Bryant,	Supervisor,	150	Capitol Avenue.
William W. Leonard,	Teacher,	4	Fairview Avenue.
Thos. B. Brown,	Teacher,		Windsor.
George E. Gordy,	Teacher,	699	Asylum Street.
Willis Carter,	Teacher,	16	Huntington Ave.

COOKING.

A. Eudora Daniels,	Supervisor,	42	Tremont Street.
Christine M. Newton,		624	Asylum Ave.
Ruth Sinnett,		624	Asylum Ave.

SEWING.

Florence E. Chapin,	Supervisor,	215	Jefferson Street.
Leda G. Prindle,		15	Adelaide Street.
Hannah F. Linke,		46	Capitol Avenue.
Julia F. White,		161	Seymour Street.
Florence E. Mahl,		329	Windsor Avenue.
M. Gertrude Woolley,		30	Vernon Street.
Louise A. Mahl,		57	Atwood Street.
Edith A. Ashmead,			Wethersfield.

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REPORT

OF THE

Trustees of the Hartford Grammar School

To September 1, 1913

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, TREASURER.
STATEMENT FOR ONE YEAR.

DR.

Balance on hand September 1, 1912	$2,070.09
Received interest Lehigh Valley Terminal Ry. Co. bonds to April 1, 1913,	350.00
Received interest Margaret M. and Wm. M. O'Connell mortgage to August 16, 1913,	125.00
Received interest Michael R. Boyle mortgage to April 22, 1913,	150.00
Received interest Chicago, Burlington & Quincy R. R. Co. bonds to May 1, 1913,	240.00
Received interest Northern Pacific-Gt. Northern bonds to July 1, 1913,	80.00
Received interest Lehigh Valley Ry. Co. bonds to July 1, 1913,	225.00
Received interest Philip J. Stueck mortgage to July 13, 1913,	500.00
Received interest W. F. and C. J. Heins mortgage to July 22, 1913,	200.00
Received interest New York Dock Co. bonds to August 1, 1913,	40.00
Received interest Mary Marchant *et al.* mortgage to August 19, 1913,	250.00
Received dividend 12 shares Hartford National Bank,	84.00
Received dividend 30 shares Phoenix National Bank,	195.00
	$4,509.09

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in account with HARTFORD GRAMMAR SCHOOL.
TO SEPTEMBER 1, 1913.

CR.

Paid Frank P. Moulton, salary to September 1, 1913, . .	$2,000.00
Paid Treasurer, for services, one year to September 1, 1913,	40.00
Balance on hand September 1, 1913,.	2,469.09
	$4,509.09

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CONNECTICUT TRUST AND SAFE DEPOSIT COMPANY, TREASURER,
in account with HARTFORD GRAMMAR SCHOOL.

INVESTMENTS, SEPTEMBER 1, 1913.

	Par.	Cost.
BONDS:		
Chicago, Burlington & Quincy R. R. Co., due 1927, 4%, May and November 1,	$6,000.00	$5,652.04
Lehigh Valley Terminal Railway Co., due 1941, 5% April and October 1,	7,000.00	7,328.42
Lehigh Valley Railway Co., due 1940, 4½%, January and July 1,	5,000.00	5,114.63
Northern Pacific-Great Northern, due 1921, 4%, January and July 1,	2,000.00	1,954.25
New York Dock Co., par $1,000, due 1951, 4%, February and August 1,	2,100.00	1,863.50
STOCKS:		
11 shares New York Dock Co., preferred, par $1,100,		
12 shares Hartford National Bank,	1,200.00	1,200.00
30 shares Phoenix National Bank,	3,000.00	3,996.00
MORTGAGES:		
Margaret M. and Wm. M. O'Connell, demand 5%, April and October 16,	2,500.00	2,500.00
Michael R. Boyle, demand, 5%, April and October 22,	3,000.00	3,000.00
Wm. F. and Clara J. Heins, demand, 5%, January and July 22,	4,000.00	4,000.00
Philip J. Stueck, demand, 5%, January and July 13,	10,000.00	10,000.00
Mary Marchant, *et al.*, demand, 5%, February and August 19,	5,000.00	5,000.00
	$50,800.00	$51,608.94

CONN. TRUST AND SAFE DEPOSIT COMPANY, *Treasurer,*
BY ARTHUR P. DAY, *Secretary.*

Securities, income and disbursements as stated found correct.
HENRY S. ROBINSON, *Auditor.*

October 2, 1913.

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ORDINANCES

OF THE

CITY OF HARTFORD

Adopted since the publication of the
Revision of 1908.

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ORDINANCES

Adopted since the Revision of 1908.

AN ORDINANCE AUTHORIZING THE CITY COLLECTOR TO SELL AT PUBLIC AUCTION LAND ACQUIRED BY THE STRICT FORECLOSURE OF CITY TAX OR ASSESSMENT LIENS.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. Whenever the title to any real estate shall have been acquired by the City of Hartford through strict foreclosure of any tax or assessment lien, or through the giving of said title to the City to satisfy its claims for assessments or taxes, the City collector may sell the same at public auction, either by itself or with other real estate so foreclosed or conveyed to the City, either on the premises sold or in his office, and may execute in the name of the City a conveyance or conveyances to the purchaser of any real estate so sold, and may affix thereto the City seal.

SEC. 2. The City collector may, at his discretion, employ an auctioneer to make such sale, and may also fix a minimum price below which no bid may be received.

SEC. 3. Every such sale shall be advertised by posting a notice thereof, at least a week in advance, on the public signpost nearest to said collector's office, and by such other advertising as he shall deem expedient. All the expenses of such sale shall be paid from the proceeds thereof by the City collector.

SEC. 4. In case the title of the City to property against which any school district shall have a claim for taxes, shall become

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absolute by strict foreclosure, and such property shall be sold by the City collector, then said collector shall pay to such school district the amount of all taxes due it, and to the City the amount of all taxes and assessments due it, provided the net proceeds of such sale shall be sufficient to pay both, and shall pay the balance, if any, into the City treasury. In case such net proceeds shall not be sufficient to pay both, then such proceeds shall be divided between the City and the school district in proportion to the amounts due each respectively.

SEC. 5. At any time within two years from the date of such sale, the owner of the property at the time of such foreclosure or any incumbrancer having an interest therein at said time may present a claim to the City treasurer for the payment to him of the proceeds of the sale, if any, in excess of the costs and expenses of such sale and the aggregate claims of the City and school district.

Approved, Oct. 29, 1907.

ORDINANCE RELATING TO LAYOUT OF NEW HIGHWAYS AND PLOTTING OF PRIVATE PROPERTY.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. No street plotted or opened by any private person, firm or corporation shall hereafter be accepted by the Court of Common Council until the petition for same with plot or plan showing proposed location of such street or highway, and its width, shall have been referred to and approved by the commission on City plan.

SEC. 2. The town clerk shall, upon the filing in his office of any such plot or plan showing layout of any such proposed highway or street, immediately send to the party so filing such plot or plan a copy of this ordinance.

Approved, Jan. 28, 1908.

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AN ORDINANCE RELATING TO SUBSTITUTES OF THE FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

All men on the substitute roll of the fire department, who, under orders of the department, may be called upon for service at large fires or on special occasions, and do in fact respond to such calls, may be paid respectively through orders of said department a sum not greater than two dollars and fifteen cents for each call.

Approved, Feb. 11, 1908.

AN ORDINANCE CONCERNING THE SALARY OF THE CLERK OF THE CITY COURT.

Be it ordained by the Court of Common Council of the City of Hartford:

The salary of the clerk of the City court shall be, from and after April 1, 1908, at the rate of one thousand dollars per annum, and in addition thereto he shall be paid a sum at the rate of five hundred dollars a year to meet and defray the expenses of his office.

Approved, Feb. 25, 1908.

AN ORDINANCE CONCERNING THE CARE OF PUBLIC CEMETERIES.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The care, management and control of all City cemeteries and burying-grounds are hereby imposed upon and delegated to the Board of Park Commissioners.

SEC. 2. Said Board of Park Commissioners are hereby vested with all the powers and shall have all the duties in connection with the care, management and control of said City cemeteries

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and burying-grounds, including the sale of lots therein, now vested in, imposed upon or assumed by the joint standing committee on City cemeteries.

SEC. 3. Said Board of Park Commissioners shall, in carrying out the powers and duties imposed by this ordinance, have the right to employ such agents, servants and employees in the care, management and control of such cemeteries and of the sale of lots therein, with such powers and responsibilities as to said Board of Park Commissioners may seem necessary and proper, and from time to time may change the same at pleasure, and shall from time to time fix the wages or compensation of such employees. Said Board of Park Commissioners may further adopt such rules and regulations as to the care, management and control of such cemeteries and burying-grounds, and the sale of lots therein, as said board shall deem to be for the proper management of the same, and may alter or amend the same. Such rules and regulations as may from time to time be adopted, altered or amended by said board shall, after publication in accordance with the ordinances in reference to City advertising, have the force of City ordinances.

SEC. 4. All proceeds of the sale of any and all lots in said City cemeteries and burying-grounds shall, on receipt of the same, be transmitted to the City treasurer, who shall not cover the same into the City funds, but shall deposit the same in such bank or banks, trust company or trust companies as may be designated by the Board of Finance, to be held and retained by such bank or banks, trust company or trust companies as a separate City fund to be known as the "cemetery fund."

SEC. 5. The income of such cemetery fund as the same accrues shall be placed by the City treasurer at the disposal of said Board of Park Commissioners in addition to such amounts as from time to time may be appropriated therefor by the Court of Common Council, to be expended by said Board of Park Commissioners, if it deems necessary or proper, in the care, management and control of such cemeteries and burying-grounds and the improvement of the same. Said income of such cemetery fund, together with all amounts appropriated by the Court of Common Council as aforesaid, shall be

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deemed park funds, limited in their expenditure for the uses and purposes of the City cemeteries and burying-grounds under the provisions hereof, and shall be paid out by the City treasurer upon warrants signed by at least three members of the said Board of Park Commissioners.

SEC. 6. All income accruing from such fund and not so drawn by said Board of Park Commissioners for the purposes as above set forth shall, at the close of the fiscal year, be added to the principal of said cemetery fund and thereafter held by the City treasurer and such depositaries as and for such principal.

SEC. 7. Said Board of Park Commissioners shall be limited in expenditures in carrying out the powers and duties imposed upon said board by this ordinance to such amounts as from time to time may be appropriated therefor by the Court of Common Council, but such limitation shall not be deemed to prohibit the expenditure by said board of such additional amount or amounts as shall accrue as income from said cemetery fund.

SEC. 8. All ordinances, resolutions or parts thereof heretofore passed by the Court of Common Council in reference to said cemeteries and burying-grounds are hereby repealed.

SEC. 9. This ordinance shall take effect April 1, 1908.

Approved, Feb. 25, 1908.

AN ORDINANCE TO CARRY INTO EFFECT THE REVISED ORDINANCES.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The revised ordinances reported to this court on the 10th day of February, 1908, by the Ordinance Committee, together with all ordinances passed by this court since the first day of October, 1907, and this ordinance, shall constitute the general ordinances of the City of Hartford, and shall be and become operative on the first day of March, 1908, and shall on said first day of March, 1908, together with any ordinances that may be approved between said 10th day of February, 1908, and said first day of March, 1908, and with all ordinances passed by this court

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since the first day of October, 1907, be the ordinances of the City, and all other ordinances or parts of ordinances shall be thereafter repealed.

SEC. 2. The said repeal shall not impair or affect any rights, privileges, immunities, or offices vested in the City of Hartford, or in any of its officers, or in any person or body corporate, and all matters, civil or criminal, commenced by virtue of the ordinances repealed as aforesaid, and pending unfinished, may be prosecuted to final effect in the same manner as if this ordinance had not been passed, and no ordinance which has been heretofore repealed shall be revived by the repeal mentioned in this ordinance.

SEC. 3. No offense committed and no penalty or forfeiture incurred under any of the ordinances hereby repealed, before the time when said repeal shall take effect, shall be affected by said repeal, except that when any penalty, punishment or forfeiture shall have been mitigated by the provisions of the revision, such provisions shall be extended to any judgment to be pronounced under said repeal.

SEC. 4. The rules of construction set out in section one of the general statutes of Connecticut are hereby made binding upon said revision.

Approved, Feb. 25, 1908.

AN ORDINANCE AMENDING AN ORDINANCE RELATING TO SCHOOL OFFICERS.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 66 of the revised ordinances is hereby amended to read as follows:

School officers: Superintendent of schools, $2,000 per year; truant officer, $1,100 per year.

Approved, March 24, 1908.

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AN ORDINANCE RELATING TO A PERMANENT FORCE OF THE FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The number of permanent substitutes of the fire department shall hereafter consist of fifteen.

SEC. 2. The force at engine companies Nos. 5, 6, 7, 8, and 12 shall hereafter consist of the following members, who shall be permanent men: One foreman, who shall also be a pipeman; one engineer, one stoker, one engine driver, one hose driver, three hosemen, their salaries to be in accordance with existing ordinances.

SEC. 3. The force at chemical engine companies Nos. 9, 10, 11 shall consist of one foreman, one driver, one assistant driver, one pipeman, the salary of the foreman to be at the rate of twelve hundred dollars per annum.

SEC. 4. This ordinance shall take effect October 1, 1908.

SEC. 5. All ordinances and parts of ordinances inconsistent herewith are hereby repealed.

Approved, March 24, 1908.

AN ORDINANCE RELATING TO MOVING PICTURE MACHINES.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. That section 378 of the revised ordinances of the City of Hartford be and the same is hereby amended by the addition of the following at the end of said section: "No moving picture machine shall be operated in the City of Hartford unless such machine is enclosed in a metal booth that has theretofore received the approval of the building inspector. No operator shall operate such machine until said operator has received a written permit from such building inspector."

Approved, March 24, 1908.

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AN ORDINANCE RELATING TO NOISE NUISANCE.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. Paragraph 441 of the revised ordinances of the City of Hartford is hereby amended by the addition of the following clauses:

"The use or operation of a siren within the City limits.

"The use or operation of a whistle, horn, bell or other instrument on the streets of the City in such manner that excessive and offensive noise or noises are produced."

Approved, March 24, 1908.

AN ORDINANCE RELATING TO ICE.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. Every person, firm or corporation who, as a business, sell and deliver ice by weight within the City limits, shall provide scales for each wagon used by such person, firm or corporation in the delivery of such ice.

SEC. 2. All persons having charge of the delivery of ice from a vehicle belonging to such person, firm or corporation shall, upon the request of a purchaser of ice from him or from such person, firm or corporation, weigh the same upon such scales when it is delivered.

SEC. 3. Any person, firm or corporation violating the foregoing sections shall be fined not less than one dollar nor more than fifty dollars for each offense.

Approved, March 24, 1908.

AN ORDINANCE RELATING TO POLICE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The police department shall consist of one chief-of-police, one captain, one lieutenant, five detective-sergeants, who

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shall perform general detective service, not more than six sergeants, one of whom, under the direction of the mayor, may be assigned as inspector of licenses and public vehicles, one police matron, one hundred and five regular policemen, three drivers, and not more than one hundred supernumerary policemen, any of whom may be called into regular service by the chief-of-police whenever in the opinion of the Police Board their services may be necessary. Hereafter all appointments as regular policemen shall be from the supernumerary force. No supernumerary policeman shall be appinted to the permanent force until he has performed active service for at least six months.

SEC. 2. All ordinances and parts of ordinances inconsistent herewith are hereby repealed.

Approved, March 24, 1908.

AN ORDINANCE RELATING TO CITY SCALE.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. That section twenty-three of the revised City ordinances be amended by the addition of the following, viz.:

A City weigher, duly qualified as hereinbefore specified, shall be employed each year by the sealer of weights and measures at a salary of not more than six hundred dollars a year, who shall be in attendance at the City scales between the hours of 8 a. m. and 12 m. and 1 p. m. and 6 p. m. each day, except Sundays and legal holidays, whose duty it shall be to weigh loads or burdens of any kind which shall be brought to him for weighing, upon tender to him of fee as hereinafter set forth, and who shall give a certificate of the weight of same signed by him as a City weigher. Said fee shall be fifteen cents for weighing each and every load weighed by him on such scale, and the same shall be paid by him over to the City treasurer at least once each week. No charge shall be made for weighing a wagon or conveyance empty and separately for the purpose of determining the actual weight of the goods contained in such wagon or conveyance.

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If requested by the purchaser of any article of merchandise sold by weight, excepting coal, the same shall be weighed on said City scales or on other scales hereafter acquired by the City for like purposes; provided, however, that such articles exceed in weight one hundred pounds, and the fees payable to said City weigher for such services shall be in all cases paid by the seller unless otherwise agreed between the parties.

Approved, March 24, 1908.

AN ORDINANCE CONCERNING THE SALARY OF THE MAYOR'S STENOGRAPHER.

Be it ordained by the Court of Common Council of the City of Hartford:

From and after June 15, 1908, the salary of the Mayor's stenographer shall be at the rate of $600 per annum.

Approved, May 26, 1908.

AN AMENDMENT TO THE CITY ORDINANCES RELATING TO THE SEALER OF WEIGHTS AND MEASURES.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 29 of the revised ordinances is hereby amended by adding at the end thereof the following words: "Provided that whenever it is practicable for the sealer of weights and measures to rectify any such weight so that it shall conform to the authorized standards, he may do so, at the request of the owner, charging a fee of five (5) cents for each weight so rectified, and he shall keep an account of all fees so collected and pay the same monthly to the City treasurer."

Approved, July 14, 1908.

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AN ORDINANCE RELATING TO PAY FOR CLERK HIRE IN BUILDING INSPECTOR'S DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

That the second clause of Section 62, Chapter 5, of the revised ordinances of the City of Hartford is hereby amended so as to read as follows:

"Clerk hire, so much as is actually expended of $600.00 per year."

Approved, August 11, 1908.

AN ORDINANCE RELATING TO CAPTAINS AND LIEUTENANTS IN THE FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. Hereafter the foreman of each company in the fire department shall be known and designated as captain.

SEC. 2. On and after October 1, 1908, the Board of Fire Commissioners shall appoint from the permanent force of the fire department a lieutenant for each company, who shall act in place of and perform the duties of the captain in his absence.

SEC. 3. Nothing herein shall be construed to authorize any increase in the number of employes in any company.

SEC. 4. All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Approved, September 15, 1908.

AN ORDINANCE RELATING TO THE SALARY OF LIEUTENANTS IN FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

From and after April 1, 1909, the salary of the lieutenant of each fire company shall be $50 per annum in addition to his salary as regular fireman, and the total salary of a lieutenant shall not exceed $1,050 per annum.

Approved, September 29, 1908.

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AN ORDINANCE RELATING TO SECOND DEPUTY CHIEF IN FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. From and after October 15, 1908, the office of third deputy chief in the fire department is abolished.

SEC. 2. From and after October 15, 1908, the second deputy chief shall be a permanent man.

SEC. 3. From and after October 15, 1908, the salary of the second deputy chief shall be at the rate of not more than $1,300 per annum.

SEC. 4. All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Approved, September 29, 1908.

AN ORDINANCE RELATING TO KILLING ANIMALS ON STREETS.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 441 of the revised ordinances is hereby amended by adding thereto the following:

Depositing the body of any dead animal in any street or highway in the city or killing any animal in such street or highway except in case of mercy or necessity.

Approved, September 29, 1908.

AN ORDINANCE CONCERNING SCATTERING MANURE, ETC., UPON STREETS.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 441 of the revised ordinances is hereby amended by adding thereto the following:

Carting manure, soil or other material through the streets of this City in such a manner as to drop or scatter said manure, soil or other material upon said streets.

Approved, November 24, 1908.

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AN ORDINANCE CONCERNING PAYMENT OF FIREMEN FOR INJURIES RECEIVED IN COURSE OF DUTY.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. Section 184 of the revised ordinances is hereby amended to read as follows:

"The necessary expenses hereafter incurred by any member of the fire department in being treated for injuries sustained while in the actual performance of duty shall be paid by the City of Hartford out of the general appropriation for the department as hereinafter provided. The Board of Fire Commissioners may recommend the payment of such expenses and upon such recommendation by said Board the Court of Common Council may order the controller to draw his order upon the treasurer for the amount so recommended."

SEC. 2. All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Approved, December 15, 1908.

AN AMENDMENT TO THE ORDINANCES OF THE CITY OF HARTFORD RELATING TO THE FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 173 of the revised ordinances of the City of Hartford is hereby amended to read as follows:

"Section 173. FIRE COMPANIES. There shall be the following fire companies:

Engine companies Nos. 1, 2, 5, 6, 7, 8 and 12, seven steam fire engine companies, each consisting of the following employees: one captain, one lieutenant, who shall both be pipemen, one engineer, one stoker, one engine driver, one hose driver, and two hosemen.

Engine companies Nos. 3 and 4, two self-propelling fire engine companies, each consisting of the following employees: one captain, one lieutenant, who shall both be pipemen, one engineer, one stoker, one tillerman, one hose driver and three hosemen.

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Chemical companies Nos. 9, 10, 11 and 15, each consisting of the following employees: one captain, one lieutenant, who shall both be pipemen, one driver and one assistant driver.

Engine and truck company No. 14, consisting of one captain, who shall be a pipeman, one lieutenant, who shall be a ladderman, one engineer, one stoker, one engine driver, one hose driver, one truck driver, two hosemen and three laddermen.

One truck company, consisting of the following employes: one captain, one lieutenant, two drivers, one assistant driver, two tillermen and eight laddermen."

This ordinance shall take effect from April 1, 1909.

All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Approved, February 9, 1909.

AN AMENDMENT TO THE ORDINANCES CONCERNING THE POLICE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The ordinance "Concerning the Police Department" approved, March 24, 1908, is hereby amended by striking out the words "One hundred and five regular policemen" in the fifth line thereof and inserting in place thereof the words "one hundred and ten regular policemen."

SEC. 2. This ordinance shall take effect April 1, 1909.

Approved, February 24, 1909.

AN ORDINANCE CONCERNING PAY OF ASSISTANT CLERK OF THE BOARD OF HEALTH.

Be it ordained by the Court of Common Council of the City of Hartford:

From and after the 1st of April, 1909, the salary of the assistant clerk of the Board of Health shall be thirteen hundred and fifty dollars ($1,350) per year.

Approved, February 24, 1909.

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AN ORDINANCE CONCERNING ROLLER SKATING ON THE STREETS.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 441 of the revised ordinances relating to nuisances be and it is hereby amended by adding at the end thereof the following:

Roller skating on the streets of the City, except on the sidewalks.

Approved, May 11, 1909.

AN ORDINANCE AMENDING THE ORDINANCE CONCERNING SALARIES OF EMPLOYEES IN THE CHARITY DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 61 of the revised ordinances concerning the charity department is hereby amended by striking out the words and figures in the twelfth and thirteenth lines thereof "eleven thousand two hundred dollars ($11,200)" and inserting in place thereof the words and figures "twelve thousand five hundred dollars ($12,500)."

Approved, May 25, 1909.

AN ORDINANCE REGULATING THE HEIGHT OF FRUIT AND VEGETABLE STANDS.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. No person shall sell or offer for sale or exhibit any vegetables, meats, fruit or confectionery, or any other article to be used for food, on the sidewalk or in front of the place of business where such articles are sold, offered for sale, or exhibited, unless said articles are placed upon a stand at least two feet high.

SEC. 2. Any person violating the provisions of Section 1 hereof shall be deemed guilty of an act of nuisance and shall be

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liable to the penalties therefor provided in Section 279 of the revised ordinances.

Approved, August 10, 1909.

AN ORDINANCE CONCERNING THE STORAGE OF MANURE.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. Every person owning, leasing or occupying any stall, shed or barn within one and one-half miles of the City Hall wherein any horse or neat cattle shall be kept shall place all manure and refuse from such horse or cattle in covered receptacles satisfactory to the superintendent of health.

SEC. 2. No collection of stable manure shall be allowed to remain for a longer period than five days from May 1 to November 1, except upon such terms and under such conditions as the superintendent of health may prescribe.

SEC. 3. The violation of any provision of this ordinance shall be deemed an act of nuisance and shall be subject to the penalties prescribed in Section 279 of the revised ordinances.

Approved, August 10, 1909.

AN ORDINANCE CONCERNING SALARIES IN THE POLICE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. That Section 57 of the revised ordinances is hereby amended to read as follows:

1. Clerk of the Board of Police Commissioners,	$250
Chief of police,	2,500
Captain,	2,000
Lieutenant,	1,600
Chief of detectives,	1,500
Each detective-sergeant,	1,400
Each sergeant,	1,200
Matron,	480

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2. The policemen of the regular force shall be divided into three grades. All policemen shall serve the first two years after appointment in the third grade, the next succeeding three years in the second grade, and after five years in the first grade.

3. The pay of policemen of the regular force shall be at the following rates:

First grade, $3.25 per day of actual service.

Second grade, $3.00 per day of actual service.

Third grade, $2.75 per day of actual service.

Such regular policemen as may be included in the third grade by term of service, but who were appointed to the regular force from supernumeraries appointed prior to March 29, 1898, or from the first thirteen supernumeraries appointed after said date, shall continue to receive compensation at the rate fixed by the present ordinance during their term of service in the third grade.

4. The pay of supernumerary policemen shall be $2.50 per day while acting in the place of, or performing the duties of a regular policeman, and no allowance shall be made for any extra time of service during any day of twenty-four hours. This shall not affect the first thirteen supernumeraries appointed after March 29, 1898, nor supernumeraries appointed before that date.

5. In addition to the foregoing compensation there may be made to any police officer an allowance for his uniform damaged while on duty, upon the recommendation and approval of the Board of Police Commissioners.

SEC. II. Section 198 of the revised ordinances is hereby amended so as to read:

No. 198. Leave of Absence. Each member of the regular force of policemen shall hereafter have a leave of absence of twelve days in each year without loss of pay. The days are to be selected by the policemen with the consent of the Board of Police Commissioners.

SEC. III. Section 199 of the revised ordinances is hereby repealed.

SEC. IV. Section 200 of the revised ordinances is hereby amended so as to read:

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No. 200. Leave of Absence for Supernumerary Policemen. The Board of Police Commissioners is hereby authorized to grant to supernumerary policemen of the City of Hartford who are doing regular police duty, leave of absence without loss of pay at the rate of one day's leave of absence per month, while so employed. Nothing in this section, however, shall be deemed to authorize such grant unless such supernumerary policeman is assigned to perform and is performing regular police duty for a continuous period of at least one calendar month.

SEC. V. All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

SEC. VI. This ordinance shall take effect from and after April 1, 1910.

Approved, August 10, 1909.

AN ORDINANCE RELATING TO PAY OF CLERK OF CHARITY DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

That the sixth line of Section 61 of the revised ordinances relating to salaries in the Charity department is amended so as to read as follows:

" Clerk, $1,800.00 per year."

Approved, September 28, 1909.

AN ORDINANCE CONCERNING THE DISTRIBUTION OF DRUGS, ETC.

Be it ordained by the Court of Common Council of the City of Hartford:

That any person who shall distribute or give away any bottle, box, envelope or package containing any liquid, medicine, pill, powder, tablet or other article which contains a drug or poison in any street or highway or from house to house shall be fined not more than fifty dollars for each offense.

Approved, December 14, 1909.

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AN ORDINANCE CONCERNING THE INTERRUPTION OF PASSAGE ALONG SIDEWALKS.

Be it ordained by the Court of Common Council of the City of Hartford:

That the owner of property before which vehicles are frequently unloaded by means of skids laid across the sidewalk in front of said property so that free passage along said sidewalk is interrupted shall be required to furnish and put in place steps over said skids. Failure to furnish and place in position said steps shall constitute a public nuisance and be subject to the penalties provided in the ordinance concerning nuisances relating to highways.

Approved, December 14, 1909.

AN ORDINANCE CONCERNING OPENINGS IN STREETS AND SIDEWALKS.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. No person or persons, firm or corporation, access to a portion of whose property is had through an opening in the sidewalks or streets of this city, shall uncover said opening until a suitable cage or guard is placed around said opening.

SEC. 2. Any person or persons, firm or corporation who shall violate any provision of Section 1 hereof shall be fined not more than $50 for each offense.

Approved, December 28, 1909.

AN ORDINANCE CONCERNING THE POWERS OF THE SEALER OF WEIGHTS AND MEASURES.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The sealer of weights and measures may, at such reasonable times as he shall see fit, intercept in the process of

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delivery from the seller to the buyer goods sold by weight or measure or, in cases where goods are exposed for sale in packages or parcels represented as being of a certain weight or measure, take up and weigh or measure such goods, and it shall be his duty to report to the prosecuting attorney any instances where the goods are sold or exposed for sale as being of greater weight, measure or quantity than such goods do in fact weigh or measure.

SEC. 2. It shall be lawful for said sealer of weights and measures to enter any store, house, building, yard or other enclosure in this city where goods are sold by weight or measure or offered for sale in packages or parcels represented to be of a certain weight or measure for the purposes specified in Section 1 hereof.

SEC. 3. This ordinance shall not apply to the sale of milk.

SEC. 4. All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Approved, January 25, 1910.

AN ORDINANCE CONCERNING THE FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 173 of the revised ordinances, as amended, and Section 177 are hereby amended to read as follows:

Section 173. FIRE COMPANIES. Each fire company shall have one captain, one lieutenant and such other regular employees as may be assigned to it by the Board of Fire Commissioners, the total number of all such officers and other regular employees in said companies not to exceed 140, including one engineer for each steam fire engine company.

Section 177. EQUIPMENT AND ORGANIZATION OF FIRE COMPANIES. The several fire companies shall be located, organized and equipped as the Board of Fire Commissioners shall designate.

Approved, January 25, 1910.

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RULES OF THE BOARD OF HEALTH REGARDING THE PLUMBING AND DRAINAGE OF NEW HOUSES, AND HOUSES ALREADY BUILT, WHENEVER MATERIAL ALTERATIONS ARE TO BE MADE.

After April 1, 1910, the plumbing and drainage of all new houses and of houses already built, when material alterations are made, must be constructed in accordance with the following specifications.

SPECIFICATIONS.

SECTION 1. Every plumber, before doing any work in or upon any building, shall, except in the case of the repair of leaks, file at the office of the Board of Health upon blanks to be provided for the purpose, a notice and description of the work to be performed, and no plumber shall start any work until he has obtained from the Board of Health a permit to do the same.

DRAINS.

SEC. 2. All houses and other buildings on premises abutting on a street in which there is a sewer, shall be connected with said sewer by the owner or agent of the premises. Each house must be separately connected with the sewer, and when possible the connection must be directly in the front of the house or premises.

The plumbing and drainage system, including rain leaders of every building, shall be entirely separate from that of any other, except where there are two buildings on one lot, one in the rear of the other.

If there is no sewer in the alley to which the rear building can connect, the sewer of the first building may be extended to serve such rear building.

SEC. 3. All material must be of good quality and free from defects. All work must be executed in a thorough and workmanlike manner.

SEC. 4. All horizontal house drains within, and to a distance of six feet outside the walls of buildings, shall be of extra heavy cast iron pipe, thoroughly tarred, at least four inches in diameter

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for the main drain, or of such larger size as the plumbing inspector may direct, and not less than three inches in diameter for sinks, trays, or other fixtures, with tight caulked, leaded joints, and shall be located so as to be readily accessible for inspection. The house drain within the building shall be securely hung on the cellar wall or the cellar ceiling, unless this is impracticable, in which case it must be laid in a trench of uniform grade. The house drain shall have a fall of at least one-quarter of an inch to the foot, and more if possible.

CLEANOUTS AND TRAPS.

SEC. 5. No special connections, cleanouts, traps or fittings shall be used without first being approved by the Board of Health. Cleanout plugs and ferrules shall be of extra heavy brass and shall be placed at every right angle turn in the drain. All traps shall be provided with suitable accessible openings for cleaning purposes and all such openings shall be exposed to view.

SEC. 6. A running trap may be placed on the house drain at an accessible point near the house wall. It may be just inside or outside of the wall. This trap must be furnished with openings on the house side and street side of the trap, having brass cleanout plug caulked into same, and brought near the surface for convenience in cleaning.

SEC. 7. The trap on the main drain shall have an air inlet of iron pipe, not less than four inches in diameter, where the drain is six inches or less in diameter, entering on the house side of the trap and leading to the outer air, opening at some place not less than ten feet from the nearest window or opening into the building, and not less than fifteen feet from any ventilator, or air box, and shall also be provided with a cleanout on the street side of the trap which shall be brought to the surface of the ground.

SURFACE DRAINAGE.

SEC. 8. Every cellar not provided with a cellar drainer shall have a deep seal trap for surface drainage provided with a brass cleanout plug caulked into the inlet of same, and a brass flap or

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back-water valve on the house side of the trap, which must be located where it will be accessible at all times.

The trap must be set level so as to maintain a full seal of water, and so arranged that the surface of the water in the trap shall not be lower than the inlet to the trap.

Surface drains must never be connected directly with the trap, but shall enter an open well that shall be built around the trap.

SEC. 9. Cellars and foundation walls must be rendered impervious to dampness, and subsoil drains must be provided when necessary.

SOIL AND WASTE PIPES.

SEC. 10. Every vertical soil and main waste pipe must be of "extra heavy" tarred iron pipe, and must extend of full size through and above the roof, at least two feet, except in case of flat roofs, when it must extend at least six feet above the roof.

When waste pipes are less than four inches in diameter they must be increased to that size from a point twenty inches below the roof.

No cap or cowl shall be put upon the top of such ventilation pipe, but a strong wire basket may be securely fastened to it.

All roof flanges must be made of sheet lead or copper, subject to the approval of the plumbing inspector.

Each length of the soil or waste pipe must be securely fastened, and each vertical line of pipe must rest at its base on a proper foundation to prevent settling.

All joints in cast iron drain, soil, waste and vent pipes must be so filled with oakum and molten lead, and caulked, as to make them water and air tight, and no joint shall be painted until tested by the inspector of plumbing. Where screw joints are used the fittings shall be recessed drainage fittings the joints to be made up in red lead and made tight, the same as cast iron pipe. Galvanized, malleable or cast iron steam fittings may be used for ventilation.

SEC. 11. All changes in direction in iron pipes shall be made with curved pipes, and all connections with Y branches and one-sixteenth or one-eighth bends, if possible. The canting of pipes is prohibited.

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Double Y's, T Y's or cross T's shall not be used on horizontal drains. Long single T Y's with branch equal in length to that of a Y and forty-five degree bend may be used.

Double Y's and T Y's and short T Y's may be used only on vertical pipes. T's may be used only for vents.

SEC. 12. All soil pipes must be at least four inches in diameter. A waste pipe receiving the discharge from more than six fixtures must be at least three inches in diameter and shall have a two-inch branch.

SEC. 13. All iron pipe must be sound, free from holes, cracks or defects, and of grade known in commerce as "extra heavy" except above all fixtures where "Standard" pipe may be used.

The following weights per lineal foot will be accepted:

2 inches	5½	pounds per foot.
3 inches	9½	pounds per foot.
4 inches	13	pounds per foot.
5 inches	17	pounds per foot.
6 inches	20	pounds per foot.

All fittings used in connecting iron pipe shall correspond with it in weight and quality.

SEC. 14. All drain, soil, waste, vent and supply pipes shall be as straight, direct and concentrated as possible, and so placed as to be readily accessible for inspection. When necessarily placed within partitions or recesses in walls they must never be covered except with wood work fastened with screws, and so arranged as to be readily removed.

SEC. 15. Wrought iron hangers (double hangers) one-half inch in diameter will be required for five- and six-inch pipe, three-eighths inch for three- and four-inch pipe, and one-quarter inch for two-inch pipe. Hangers, clamps, or suitable brick piers must be placed at intervals of seven and one-half feet.

SEC. 16. All connections of lead with iron pipes must be made with a brass sleeve or ferrule of the proper size, put in the hub of the iron pipe, and caulked with oakum and lead. The lead pipe must be connected to the brass by a wiped joint.

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VENTILATION.

SEC. 17. All traps must be protected from syphonage or back air pressure by a vertical air pipe of cast or galvanized iron, in no case less than two inches in diameter for one, two, or three water closets, and not less than three inches in diameter for more than three water closets.

SEC. 18. The vent pipes for four sets of fixtures, such as sinks and wash trays, or wash bowls and bath tubs, shall be not less than one and one-half inches in diameter, and for more than four fixtures the pipe shall be two inches in diameter.

SEC. 19. In case of fixtures located at a distance of eight feet from the main line of vent pipe, a separate line of vent pipe in no case less than two inches in diameter for water closet traps, and one-half inch in diameter for other traps, shall be used. These vent pipes must be increased to four inches before going through the roof.

SEC. 20. When more than thirty feet of vent pipe is used, it must be increased to at least one size larger pipe.

SEC. 21. The diameter of vent connection for traps shall be not less than the waste pipes they serve, except water closet vents which shall be not less than two inches, and which shall be taken from near the top of the bend between the water closet and the entrance of the bath or other waste, and as near to the water closet as practicable.

SEC. 22. Vents for other traps shall be taken from near the crown or from the top of the waste pipe near the trap, but in no case from inside of the crown of the trap.

SEC. 23. Vent connections shall be made so as to conform with the flow of water.

Where T's or T Y's are used they shall be installed so as to conform to the flow of the air. Continuous vents may be used only on wash bowls, unless special permission is given in writing by the Board of Health.

SEC. 24. Bowing of vent pipes shall not be allowed.

SEC. 25. Rubber vent couplings and brass vent couplings for lead and iron pipe will not be allowed under any circumstances.

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LEADERS.

SEC. 26. Rain water leaders must never be used as soil, waste or vent pipes, nor shall any soil, waste, or vent pipes be used as a leader.

SEC. 27. All leaders which are carried up within the walls of a building must be of extra heavy tarred cast or extra heavy galvanized iron and shall be connected with the roof by a heavy lead or copper spout which must not be put in until a heavy brass ferrule or soldering nipple be connected to the same by a wiped or heavy soldered joint and properly connected to the iron pipe.

Slip joint on these connections will not be allowed.

SEC. 28. All roof leaders shall be properly trapped below the frost line as near the main drain as practicable, and shall be provided with openings having heavy brass ferrules caulked into the same for cleaning purposes.

SEC. 29. All leader drains from above the ground to the distance of six feet from the outside of the cellar walls of the building shall be of extra heavy cast iron pipe, and shall not be buried until after inspection by the Board of Health.

STEAM EXHAUST.

SEC. 30. No steam exhaust, blowoff, or drip pipe from a steam boiler shall connect with the sewer, or with any drain or soil or waste pipe.

Such pipes must discharge into a tank or condenser from which a suitable outlet to the drain may be provided.

No overflow from an expansion tank for hot water heater shall connect with any drainage system, unless a suitable tapped fitting be provided for such connections.

SEC. 31. When lead pipes are used to connect fixtures with soil, waste, or vent pipes, it must not be lighter than the size specified below:

1¼	inch in diameter	2½	lbs. per foot.
1½	inch in diameter	3½	lbs. per foot.
2	inch in diameter	4¾	lbs. per foot.
3	inch in diameter	6	lbs. per foot.
4	inch in diameter	8	lbs. per foot.

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SEC. 32. Lead traps and bends must be of the same weight per running foot as the lead pipe of corresponding size.

Lead waste pipes shall not exceed six feet in length. Waste pipes over six feet shall be of iron.

SEC. 33. The waste pipes from all fixtures must be separately and effectively trapped. Traps must be placed as near the fixtures as practicable, and in no case shall the trap be more than two feet from the fixture. Each bath tub must be fitted with a four-inch pot trap having a one and three-fourth-inch seal. When a wash tray and kitchen sink are on the same waste pipe, they may be trapped together, but the outlet must not be less than two inches in diameter.

A suitable grease trap must be placed under the sink of every hotel, restaurant, eating house, or other cooking establishment.

SEC. 34. Waste pipes from refrigerators, from safes under fixtures, or overflow from house tanks, shall in no case be directly connected with any soil or waste pipe, or with any drain or sewer.

SEC. 35. A lead pipe from two fixtures, such as sink and wash trays, or wash bowl and bath tub, shall not be less than one and one-half inches in diameter. The following sizes of lead pipes and traps shall be: water closets, four inches; slop sinks, three inches; urinals, two inches; bath tubs, one and one-half inches; basins, one and one-half inches.

SEC. 36. All vertical waste pipes shall be of iron.

SEC. 37. All connections of lead supply, waste, vent, or flush pipes shall be made by means of wiped joints, and shall be supported their entire length by means of lead tacks, or clips screwed to boards provided for the purpose.

WATER CLOSETS.

SEC. 38. Water closets must never be placed in a cellar or in an unventilated apartment. Each room or compartment must be of such size as to give at least two feet in front of the closet, and if containing a bath tub at least eighteen inches clear space in front of the tub for its entire length. It must be well lighted and ventilated to the outer air by a window of at least three square feet in area, and so arranged as to give a free opening of this size when open, or be separately ventilated by means of an

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approved shaft or air duct. In the latter case a suitable fixed window of at least twelve square feet in area shall be provided in the enclosing partitions, suitably arranged to admit the natural light from the adjoining room. When such room or compartment is located in or closely adjacent to a room used as a dwelling, bake shop, market, provision store, or in any case in which escaping odors would cause a nuisance, all partitions must be made tight with lath and plaster or by such other method as may be approved by the plumbing inspector.

Closets and urinals when intended for public use shall be local vented into a hot flue, or if such flue is not available, a suitable exhaust fan shall be provided.

Lead waste connections from urinals shall in no case be less than two inches in diameter.

All water closets must be connected by a floor flange and gasket and must be leaded. Putty connections cannot be used.

SEC. 39. Pan-closets and iron hopper and plunger closets are prohibited. They will not be allowed under any circumstances and wherever removed shall not be replaced. Offset washout water closets shall not be placed in a new building, nor shall they take the place of another closet without a special permit from the Board of Health.

SEC. 40. All water closets must be supplied with an abundant flow of water for flushing, and where practicable from a tank.

VAULTS AND CESSPOOLS.

SEC. 41. When there is no sewer provided in the street, the privy vault shall be at least six feet deep, of the length and width of the privy building. The walls shall be of brick or stone, laid with a full joint of cement mortar; the bottom shall be covered with brick or stone, laid in cement mortar, and the whole interior of the vault shall be plastered with same, so as to be perfectly tight when completed. All privy vaults shall be at least fifty feet from a street or well and fifty feet from a house.

SEC. 42. A cesspool shall be provided and built in the same manner and of the same materials as described for privy vaults, except that an overflow shall be provided that may enter tiles laid under ground with open joints permitting liquids to permeate the

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land, provided there is no well within fifty feet of same. The cesspool shall be provided with a ventilated top and covered with a suitable opening for cleaning same. Connections with cesspool shall be made in the same manner as connections to street sewer.

TESTS.

SEC. 43. The entire system of plumbing, including lead connections and drains within the building, must be tested by filling the whole system with water, and having it remain filled for at least twenty-four hours.

SEC. 44. When the plumbing is found to stand the test for the time specified, notice shall be given to the Board of Health, whose inspector shall within a reasonable time proceed to inspect same, and approve or reject it.

SEC. 45. Any such system put in and covered before it has been tested and approved by the inspector, must be uncovered for examination at the direction of said officer.

SEC. 46. When the entire work is completed and before it is used, it must be tested with peppermint or some other practical test in the presence of the plumbing inspector, and upon satisfactory completion of said work, the Board of Health shall issue a certificate of approval.

SEC. 47. Whenever any changes are made in the plumbing or drainage of houses already erected, all new work must be done in accordance with the preceding rules.

SEC. 48. Deviations and variations from these rules will be allowed when desired, if, in the opinion of the Board, they will not be, or are not liable to become a source of danger to the public health.

Approved, January 25, 1910.

AN ORDINANCE RELATING TO THE LICENSING OF PLUMBERS.

Be it ordained by the Court of Common Council:

That Section 296 of the revised ordinances be amended to read as follows:

The Board of Health shall issue licenses to plumbers as hereinafter provided and shall keep a record of all licenses so issued.

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Every plumber carrying on his trade in the City of Hartford must, on or before the first day of April, 1910, apply to the Board of Health for a license as a plumber, and shall, before receiving such license, be examined as to his qualifications as a plumber, in accordance with such rules and regulations as the Board of Health may prescribe. Every master plumber, while engaged in the plumbing business in the City of Hartford, who is not himself a licensed plumber, shall, after the first day of April, 1910, have in his employ at least one licensed plumber. Every master plumber shall display in a prominent and conspicuous place in his place of business his own license, or if he is not himself a licensed plumber, the license of at least one of the licensed plumbers who may at that time be in his actual employ, and shall not so display any license, other than his own, unless the plumber holding said license is actually working for him.

Approved, March 1, 1910.

AN ORDINANCE CONCERNING SALARIES OF THE POLICE DEPARTMENT.

Be it ordained by the Court of Common Council:

SECTION 1. That Section 57 of the revised ordinances of the City of Hartford, as amended by "An Ordinance Concerning Salaries in the Police Department," passed August 9, 1909, and approved August 10, 1909, be, and the same hereby is further amended, by striking out the words "Each Sergeant," the figures "$1,200.00" and inserting in lieu thereof the figures "$1,300.00."

SEC. 2. This ordinance shall take effect from and after April 1, 1910.

Approved, February 15, 1910.

AN ORDINANCE RELATING TO THE SALE OF HUMAN FOOD.

Be it ordained by the Court of Common Council of the City of Hartford:

No person shall sell or offer for sale, or have in his possession with intent to sell for human food, in this city, any unwholesome,

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decayed or stale fruit, vegetables or provisions of any kind whatsoever, or any tainted, diseased, decayed or unwholesome meat, fowl, or fish, or any milk or other liquid used as food or drink by human beings that shall be so contaminated as to be injurious to the public health; or the flesh of any calf which weighed less than fifty pounds when killed and dressed, or which was less than four weeks old when killed.

Every person being the owner, lessee or occupant of any rooms, stall, vehicle or place where any meat, fish, birds or fowl, fruit or vegetables, or any breadstuffs, cake, pastry or confectionery designed or held for human food, shall be stored or kept or shall be offered for sale, shall put and keep such room, stall, vehicle or place and its appurtenanes in a clean and wholesome condition; and every person having charge or interested or engaged, whether as principal or agent, in the care or custody of any meat, fish, birds or fowl, fruit or vegetables, or any breadstuffs, cake, pastry or confectionery designed for human food, shall put and keep the same in a cleanly and wholesome condition, and shall not allow the same or any part thereof to be poisoned, infected or rendered unsafe or unwholesome for human food.

Upon any meat, birds, fowl, fish, fruit, vegetables or any articles of food or drink being found by any member or inspector of the Board of Health, in a condition which renders them in his opinion unwholesome and unfit for use as human food, then such inspector or member of the Board of Health may forbid the same being offered or exposed for sale, or being sold for human food, until the owner or party in charge, or other proper person has obtained the consent of the Superintendent of Health to their being so offered, used or sold. And thereupon if the Superintendent of Health shall have approved the judgment of the said inspector or member of the Board of Health, said officer may order said articles destroyed or may permit the owner or any party in charge, to speedily remove such articles from any market, street or public place, but not to sell or dispose or offer to sell or dispose thereof for the purpose of human food.

Any person violating the provisions of this ordinance, or disposing of any condemned article without permission of the Super-

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intendent or an inspector of the Board of Health, shall, upon conviction, be fined not more than fifty dollars for each offense.

Section No. 288 of the revised ordinances of the City of Hartford is hereby repealed.

Approved, March 1, 1910.

AN ORDINANCE RELATING TO SALARIES IN THE FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

On and after April 1, 1910, the salaries of the following members of the Fire Department shall be:

Second deputy chief of the Fire Department, not more than $1,500 per annum.

Electrical inspector, not more than $1,800 per annum.

Assistant electrical inspector, not more than $1,200 per annum.

Lineman, not more than $1,050 per annum.

All ordinances and parts of ordinances inconsistent herewith are hereby repealed.

Approved, March 1, 1910.

AN ORDINANCE RELATING TO THE POLICE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The Police Department shall consist of one chief-of-police, one captain, one lieutenant, five detective-sergeants, who shall perform general detective service, not more than ten sergeants, one of whom, under the direction of the Mayor, may be assigned as inspector of licenses and public vehicles, one police matron, one hundred and sixteen regular policemen, three drivers, and not more than one hundred supernumerary policemen, any of whom may be called into regular service by the chief-of-police

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whenever in the opinion of the Police Board their services may be necessary. Hereafter all appointments as regular policemen shall be from the supernumerary force. No supernumerary policeman shall be appointed to the permanent force until he has performed active service for at least six months.

SEC. 2. All ordinances and parts of ordinances inconsistent herewith are hereby repealed.

SEC. 3. This ordinance shall take effect from and after May 1, 1910.

Approved, March 1, 1910.

AN ORDINANCE RELATING TO THE EMPLOYMENT OF MEDICAL INSPECTORS OF THE HEALTH DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

That the fifth line of Section 60 of the revised ordinances relating to medical inspectors of the Health Department be amended so as to read as follows:

"Four medical inspectors each $600.00 per year."

Approved, May 24, 1910

AN ORDINANCE RELATING TO SALARY OF CLERK TO SEALER OF WEIGHTS AND MEASURES.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 67, page 28, of revised ordinances of 1908, shall be amended to read as follows:

Section 67. SEALER OF WEIGHTS AND MEASURES.

Sealer of weights and measures, ...	$1,200.00
Clerk, ...	600.00

Approved, July 12, 1910.

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AN ORDINANCE PROHIBITING CERTAIN FORMS OF ADVERTISING IN THE CITY STREETS.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. No person shall place in or upon, or carry or transport in any manner or by any means, through, along, or upon any public street or sidewalk in the City of Hartford, or cause to be placed in or upon, or to be carried or transported in any manner or by any means through, along, or upon any such public street or sidewalk, any show-board or canvas, placard, sign, or advertising transparency or device of any kind for the purpose of displaying or exhibiting the same; provided, that nothing herein shall be so construed as to prohibit the customary and usual lettering used by business men on their wagons.

SEC. 2. Any violation of Section 1 of this ordinance shall be a misdemeanor and be punished by a fine not exceeding twenty dollars.

Approved, October 11, 1910.

AN ORDINANCE AMENDING SECTION 299 RELATING TO INSPECTION OF BUILDINGS, AND SECTION 301 RELATING TO CERTIFICATES OF APPROVAL OF PLUMBING.

Be it ordained by the Court of Common Council of the City of Hartford:

That Sections 299 and 301 of the revised ordinances be amended to read as follows:

Section 299. INSPECTION OF BUILDINGS. No building intended for human habitation, occupancy or use, shall hereafter be erected or in any material manner altered or repaired, unless the owner or the person having charge of such erection, alterations or repairs shall first have submitted the plans, specifications and details therefor, in so far as the same shall relate to ventilation, light, plumbing and drainage, to the Board of Health, who shall have power to approve, reject or modify such plans,

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specifications and details, and to issue such written instructions relating to said work as it shall deem proper for the protection of health.

Section 301. CERTIFICATE OF APPROVAL. When the plumbing work upon any building requiring inspection and approval as aforesaid shall be completed, the Board of Health shall be notified by the plumber or person in charge, and if on inspection the work shall be found completed to the satisfaction of said Board, it shall issue a written certificate of approval, a copy of which and of all other proceedings in the matter shall be kept on file or recorded, and until such certificate is issued it shall not be lawful for the owner, manager or agent of said property to allow it to be used for human habitation or occupancy.

Approved, October 11, 1910.

AN ORDINANCE RELATING TO STREET SALES BY CHILDREN.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 412 of the revised ordinances of the City of Hartford is hereby amended so as to read as follows:

No child under the age of ten years shall be allowed to sell, offer for sale, or distribute any article of merchandise on the public streets or in any public place within the city. No child between the ages of ten and fourteen years shall be allowed to so sell, offer for sale, or distribute any article of merchandise during the hours in which public schools are in session, or later than eight o'clock in the evening, nor until such child shall have obtained a badge of permit so to do from the Superintendent of Schools. Said license shall be issued without fee and in the discretion of said superintendent, under such restrictions as he shall deem expedient, and shall be revocable at his pleasure; provided, however, that no child shall be discriminated against or refused such license solely on the ground of sex. Application for such license shall be made in the child's behalf by his parent, guardian, or next friend.

Approved, November 19, 1910.

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AN AMENDMENT TO "AN ORDINANCE CONCERNING SALARIES IN THE POLICE DEPARTMENT."

Be it ordained by the Court of Common Council of the City of Hartford:

That "An Ordinance Concerning Salaries in the Police Department," approved August 10, 1909, be amended by adding thereto the following:

VII. Injuries in the Performance of Duty. The Board of Police Commissioners is hereby authorized to grant to members of the regular police force and to supernumerary policemen of the City of Hartford, who shall have been injured in the performance of their duties as policemen, full pay for such time as they shall have been so disabled as to be unable to perform police duty, this section to take effect as of May 1, 1910.

VIII. Traffic Squad. The Board of Police Commissioners is hereby authorized to assign certain members of the police force, either regular or supernumerary, to be not more than fifteen in number at any one time, for duty on what shall be known as the "Traffic Squad," and may in its discretion allow such officers leave of absence without loss of pay, in addition to the leave of absence given by Paragraphs II and IV of said ordinance, provided, however, that it shall be unnecessary to assign other officers to perform duty in the place of those allowed such additional leave of absence.

AN ORDINANCE CONCERNING THE PAY OF THE CITY MARSHAL AND FOR ATTENDANCE IN CITY COURT.

Be it ordained by the Court of Common Council of the City of Hartford:

That that portion of Section 52 of the revised ordinances of the City of Hartford, relative to pay of City marshal, be amended to read as follows:

"City marshal, $500.00 per year, and $500.00 per year for attendance in the City Court."

This ordinance shall take effect on and after April 1, 1911.

Approved, December 28, 1910.

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AN ORDINANCE AMENDING AN ORDINANCE RELATING TO MESSENGER OF THE CITY COURT.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 59 of the revised ordinances of the City of Hartford, Legal and Judicial Department, be amended to read as follows:

"Messenger of the City Court, $500.00 per year."

This ordinance shall take effect on and after April 1, 1911.

Approved, December 28, 1910.

AN ORDINANCE RELATING TO INCREASE OF FORCE OF FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 173 of the revised ordinances, titled FIRE COMPANIES, be amended to read as follows:

"Each fire company shall have such officers and such other employees as may be assigned to it by the Board of Fire Commissioners, the total number of such officers and other regular employees in said companies not to exceed 147, including one engineer for each steam fire engine company, and no company to have more than one captain or more than one lieutenant."

Approved, December 28, 1910.

AN ORDINANCE RELATING TO ADDITIONAL LINEMAN FOR FIRE AND POLICE TELEGRAPH ALARM SYSTEM.

Be it ordained by the Court of Common Council of the City of Hartford:

That the last clause of Section 171 of the revised ordinances is hereby amended to read as follows:

"From and after April 1st, A. D. 1911, there shall be two linemen, who shall assist the electrical inspector and be subject to his orders."

Approved, December 28, 1910.

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AN ORDINANCE AMENDING SECTION 54 OF THE REVISED ORDINANCES OF 1908.

Be it ordained by the Court of Common Council of the City of Hartford:

"Section 54. STREET DEPARTMENT. President of Board of Street Commissioners, $2,000 for the salaries of the members of the Board, to be divided as they shall direct by vote.

"Clerk of Board of Street Commissioners, not exceeding $2,500 per year.

"Superintendent of Streets, not to exceed $2,500 per year, and suitable transportation."

Approved, February 28, 1911.

AN ORDINANCE AMENDING SECTION 56 OF THE REVISED ORDINANCES RELATING TO SALARIES, GRADING, PAY, LOSS OF TIME, LEAVE OF ABSENCE AND VACATION OF MEMBERS OF FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION I. 1. That Section 56 of the revised ordinances be hereby amended to read as follows:

Clerk of the Board of Fire Commissioners not more than	$1,500 per yr.
Chief of Fire Department,	2,500 per yr.
First deputy chief of Fire Department,	1,800 per yr.
Second deputy chief of Fire Department,	1,500 per yr.
Electrical inspector,	1,800 per yr.
Asst. electrical inspector not more than	1,300 per yr.
Linemen not more than $3.00 per day of actual service.	
Captains, each, actual service,	$3.50 per day
Lieutenants,	3.10 per day
Engineer and mechanic,	3.50 per day
Engineer,	3.45 per day

2. The regular firemen commonly known as privates shall be divided into three grades. All firemen shall serve the first two

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years after appointment in the third grade, the next succeeding two years in the second grade, and, after four years, in the first grade.

3. The pay of regular firemen shall be at the following rates:

First grade, $3.00 per day of actual service.

Second grade, $2.75 per day of actual service.

Third grade, $2.50 per day of actual service.

SEC. II. The pay of men on the substitute roll of the Fire Department, employed in the place of regular members, or at fires, or on special duty, shall be at the same rate as the third grade privates, viz.: $2.50 per day of actual service.

SEC. III. At the discretion of the Board of Fire Commissioners, allowance may be made for time lost through injury received in the lines of duty, and also allowance of half-pay for time lost by reason of sickness.

SEC. IV. That the position of engineer and mechanic be hereby created, which shall include the regular duties of an engineer, and the person occupying the position shall have charge of the department machine shop. Appointment to this grade shall be optional with the Board of Fire Commissioners.

SEC. V. One day's leave of absence in each ten, and ten days annual vacation, shall be granted to the permanent force of the Hartford Fire Department, such leave and vacation to be without deduction of pay.

SEC. VI. All ordinances and parts of ordinances inconsistent herewith are hereby repealed.

SEC. VII. This ordinance shall take effect on and after April 1, 1911.

Approved, March 14, 1911.

AN ORDINANCE REGULATING BILLBOARDS AND BILL-POSTING IN THE CITY OF HARTFORD.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. No person or corporation shall erect or maintain any billboard or outdoor advertising sign of any character what-

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ever upon any land or buildings in the City of Hartford, nor post or display any bill, poster or advertising device of any kind upon any billboard, kiosk, fence, building, tree, or in any public place, without having first obtained the written consent of the owner of such property; and in case such property belongs to the City of Hartford, written permission must be had from the Mayor of said City.

SEC. 2. No person or corporation shall post, or display in any public place, any poster, billboard or advertising device of any character without having first secured a license as a bill-poster as hereinafter provided; except that this shall not apply to advertising of any business upon any building where such business is carried on.

SEC. 3. (*a*) Every bill-poster employing one or more men shall secure from the Mayor of the City of Hartford annually an employing bill-poster's license to carry on the business of outdoor advertising, for which a fee of twenty-five dollars ($25.00) shall be paid to the City of Hartford; such license shall run from January first of each calendar year. At the time the same is issued such employing bill-poster shall file with the Mayor of the City of Hartford a list of all boards owned or leased by him, giving the location and size of each.

(*b*) Every person engaged in the business of bill-posting not an employing bill-poster shall secure annually from the Mayor of the City of Hartford a license to engage in such business, for which the sum of one dollar ($1.00) shall be paid to the City, and for which he shall receive a badge bearing the number of his license, which badge must always be worn in sight when at work. These licenses shall run from January first of each calendar year.

SEC. 4. No bill, poster, or picture of any kind of an immoral or indecent character, nor any bill or picture representing vice or crime, shall be exposed to public view in the City of Hartford: and the power shall be vested in the Mayor of the City to decide as to the suitability of any such bill or picture for public display: and he shall order the employing bill-poster upon whose board may be exposed to public view any bill or picture that, in his opinion, is immoral or indecent or that exploits vice or crime, to remove such bill, and upon failure to do so within twenty-four

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(24) hours, the Mayor shall revoke such license, and any license so revoked shall not be renewed for one year from the date of such order to remove.

SEC. 5. Every billboard, kiosk or other device for displaying advertising matter shall be constructed and maintained in a safe and substantial manner, the same to be determined by the Building Inspector of the City of Hartford, and all such boards and other devices shall at all times be kept in a neat and clean condition. There shall be no loose paper hanging from boards or allowed to fall upon the streets or sidewalk, and no dropping of paste upon the sidewalk. Upon the top of every billboard or advertising sign intended to be included under this ordinance, shall be plainly displayed the name and license number of the employing bill-poster using said board.

SEC. 6. Any citizen may report to the Mayor the location of any board, and the name and license number of the bill-poster using the same, upon which is displayed any offensive matter, or that is in an untidy or unsafe condition, and it shall be the duty of the Mayor to investigate every such report, and, if necessary, instruct the employing bill-poster using said board to take such action as will make the same conform to the provisions of this ordinance.

SEC. 7. Any employing bill-poster failing to comply with the instructions of the Mayor relative to making his boards conform to the terms of this ordinance, shall have his license revoked. Any other person violating the provisions of this ordinance shall be fined not less than one dollar ($1.00) nor more than twenty-five ($25.00) dollars.

Approved, March 28, 1911.

AN ORDINANCE AMENDING AN ORDINANCE CONCERNING DRIVING OF DROVES OF CATTLE THROUGH THE STREETS.

Be it ordained by the Court of Common Council of the City of Hartford:

That the last clause of Section 441 of the Revised Ordinances of 1908 is hereby amended, so that the same shall read as follows:

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"The driving of any drove of animals through any street on which there is street-car service at any time without a license of the Board of Street Commissioners, or through any other street or highway of the city upon Sunday between sunrise and sunset without the written permission of the chief of police."

Approved, October 17, 1911.

AN ORDINANCE CONCERNING AWNINGS OVERHANGING THE HIGHWAY.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. On and after January 1, 1912, no awnings shall be erected or maintained over any portion of a street, highway, public place or grounds, which when lowered shall be less than six and one-half feet above the sidewalk, and where there is no sidewalk less than six and one-half feet above the surface of such street, highway, place or grounds.

SEC. 2. The Board of Street Commissioners shall have full power and authority to authorize, supervise, and inspect the erection, location and maintenance of the awnings referred to in this ordinance, and may order changes in any of such awnings, or the removal of the same, whenever in their judgment such changes or removal shall serve the public interest or convenience.

SEC. 3. Any person violating any of the provisions of this ordinance or failing to comply with any order of the Board of Street Commissioners herein authorized, shall forfeit and pay to the City of Hartford the sum of one hundred dollars for each offense, to be collected in an action of debt brought in the name of the City in the City Court of said City.

Approved, November 14, 1911.

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AN ORDINANCE AMENDING AN ORDINANCE AMENDING SECTION 299 OF THE REVISED ORDINANCES RELATING TO INSPECTION OF BUILDINGS ADOPTED OCTOBER 10, 1910.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 299 of the revised ordinances be amended to read as follows:

Section 299. INSPECTION OF BUILDINGS. No building intended for human habitation, occupancy or use shall hereafter be erected, or in any material manner altered or repaired, unless the owner or the person having charge of such erection, alterations or repairs shall first have submitted the plans, specifications and details therefor, in so far as the same relate to ventilation, light, plumbing and drainage, to the Board of Health, and shall have received from said Board an approval thereof. Said Board shall have power to approve, reject or modify such plans, specifications and details, and to issue such written instructions relating to said work as it shall deem proper for the protection of health.

Approved, December 12, 1911.

AN ORDINANCE REGULATING STREET TRAFFIC AND RULES FOR DRIVING IN THE CITY OF HARTFORD.

Be it ordained by the Court of Common Council of the City of Hartford:

ARTICLE I.

SECTION 1. VEHICLES IN MOTION. A vehicle, except when passing a vehicle ahead, shall keep to the right and as near the right curb as possible.

SEC. 2. A vehicle meeting another vehicle shall pass on the right.

SEC. 3. A vehicle overtaking another shall pass on the left side of the overtaken vehicle and shall not pull over to the right until entirely clear of it.

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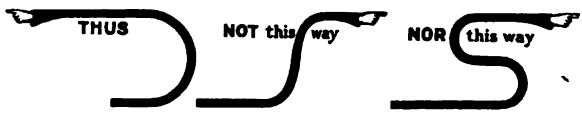
SEC. 4. A vehicle in turning to the right into another street shall keep as near the right curb as possible.

SEC. 5. A vehicle in turning to the left into another street shall pass to the right of and beyond the center of the intersecting street before turning.

SEC. 6. A vehicle crossing from one side of the street to the other shall do so by turning to the left, so as to head in the general direction of traffic on that side of the street.



SEC. 7. Vehicles moving slowly shall keep as close as possible to the right-hand curb, so as to allow vehicles moving faster free passage on the left.

SEC. 8. Whenever two or more vehicles traveling on different streets approach the intersection of two or more streets, each driver shall give the driver on his right hand the right of way.

SEC. 9. No person shall drive, guide, or have the care of two or more horses harnessed respectively to different vehicles.

ARTICLE II.

SECTION 1. SIGNALS. In slowing up, stopping, turning while in motion, or in starting to turn from a standstill, a signal shall be given by raising the whip or hand.

SEC. 2. Before backing ample warning shall be given, and while backing vigilance must be exercised not to injure those behind.

ARTICLE III.

SECTION 1. RIGHT OF WAY. United States mail, police, fire department vehicles, and ambulances, and vehicles of physicians while engaged in the actual performance of their professional duties, shall have the right of way in any street and through any procession.

SEC. 2. Subject to Section 1 of this Article, street cars shall have the right of way between cross streets over all other vehi-

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cles; and the driver of any vehicle proceeding on the track in front of a street car shall turn out on a signal by the motorman or conductor of the car.

SEC. 3. A vehicle waiting at the curb shall promptly give place to a vehicle about to take on or let off passengers.

ARTICLE IV.

SECTION 1. STOPPING, STANDING, AND TURNING. No vehicle shall stop with its left side next to the curb in any portion of the city.

SEC. 2. No vehicle shall stand backed up to the curb except when actually loading or unloading, and if said vehicle is horse-drawn and has four wheels, the horse or horses must stand parallel to the curb and faced in the direction of traffic, but no vehicle shall stand so backed up if it interferes with or interrupts the passage of other vehicles or street cars.

SEC. 3. Unless in an emergency or to allow another vehicle or a pedestrian to cross its way, no vehicle shall stop in any public street, except close to the curb.

SEC. 4. No vehicle shall stop or stand within the intersection of any streets, or of any street and driveway, nor within ten feet of a street corner or fire hydrant.

SEC. 5. No vehicle or street car shall stop in such a way as to obstruct any street or crossing, except in case of accident, or when directed to do so by a public officer.

SEC. 6. A person having charge of a vehicle shall not stop the same abreast of another vehicle lengthwise of any street, except in case of accident or emergency.

SEC. 7. No vehicle shall back to make a turn in any street, if by doing so it interferes with other vehicles, but shall go around the block or to a street sufficiently wide to turn in without backing.

SEC. 8. The driver of a vehicle, on the approach of a fire engine or any other fire apparatus, shall immediately draw up said vehicle as near as practicable to the right hand curb and parallel thereto and bring it to a standstill.

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SEC. 9. The driver of a street car shall immediately stop said car and keep it stationary upon the approach of a fire engine or other fire apparatus.

SEC. 10. Street cars passing through Pearl Street in either direction shall not stop between the Phœnix Mutual Life Insurance Company's building, number 49 Pearl Street, and Main Street for the purpose of discharging or taking up passengers.

SEC. 11. There shall at all times be a space of at least twenty feet between street cars headed in the same direction, whether said cars are in motion or stationary.

SEC. 12. No vehicle shall, between the hours of nine a. m. and six p. m. on any day except Sunday, stop for a longer period than twenty minutes on any of the streets, or portions of the streets, hereinafter designated, to wit: Main Street from the north line of Grove Street extended to the south line of Morgan Street extended; Mulberry Street from Main Street to Wells Street; Pearl Street from Main Street to Trumbull Street; Asylum Street from Main Street to High Street; Pratt Street from Main Street to Trumbull Street; Church Street from Main Street to Trumbull Street; Grove Street from Main Street to Prospect Street; Prospect Street from Atheneum Street to Central Row; State Street from Main Street to Market Street; Kinsley Street from Main Street to Market Street; Temple street from Main Street to Market Street; Lewis Street from Pearl Street to Gold Street; *provided*, that this shall not apply to teams actually engaged in loading or unloading goods or merchandise, nor to vehicles on public stands, nor to vehicles of physicians engaged in the actual performance of their duties outside of their offices.

SEC. 13. The Board of Police Commissioners may, from time to time, in case of special temporary emergency, extend these regulations to include other streets whenever in its judgment such course is necessary, and may make such additional rules for the regulation of traffic at places in its opinion especially dangerous as in its judgment may be necessary to properly protect the public in the safe use of the highways.

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ARTICLE V.

SECTION 1. CARE IN DRIVING, MANNER OF LOADING. STEALING RIDES. No one shall cease to hold the reins while riding, driving or conducting a horse.

SEC. 2. No one shall so load a vehicle or street car with iron or other material that may strike together without properly deadening it so that it will cause no unnecessary noise.

SEC. 3. No one shall steal a ride upon any vehicle or street car, and no one shall ride upon the rear of any vehicle without the consent of the person in charge thereof.

SEC. 4. The driver of a street car passing a standing street car shall reduce its speed to three miles an hour and give signal of its approach.

ARTICLE VI.

Drivers of vehicles and street cars must at all times comply with any direction, by voice or hand, of any member of the police force, as to stopping, starting, approaching or departing from any place, and the manner of taking up or setting down any passengers or loading or unloading goods in any place.

ARTICLE VII.

SECTION 1. DEFINITIONS. The word "vehicle" includes equestrians, horses hitched to vehicles, led horses, motor vehicles of all kinds, and everything on wheels and runners except street cars.

SEC. 2. The word "horse" includes all domestic animals.

SEC. 3. The word "driver" includes the rider or driver of a horse, the rider of wheels and the operator of a motor vehicle or street car.

ARTICLE VIII.

PENALTIES. Whoever violates any of the provisions of the foregoing rules and regulations shall be punished by a fine not exceeding twenty dollars for each offense.

ARTICLE IX.

All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Approved, December 12. 1911.

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AN ORDINANCE ESTABLISHING ONE-WAY TRAFFIC ON STATE STREET.

Be it ordained by the Court of Common Council of the City of Hartford:

No vehicle, except trolley cars and fire and police departments equipment, shall pass through State Street between a point 25 feet west of the curb at the northwest corner of State and Market Street, and Main Street, except in a westerly direction during the hours of 9 A. M. to 7 P. M., week days.

Approved, December 12, 1911.

AN ORDINANCE RELATING TO INCREASE OF FORCE OF FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 173 of the revised ordinances, entitled FIRE COMPANIES, be amended to read as follows:

"Each fire company shall have such officers and such other employees as may be assigned to it by the Board of Fire Commissioners, the total number of such officers and other regular employees in said companies not to exceed 157, including one engineer for each steam fire engine company and no company to have more than one captain or more than one lieutenant."

Approved, January 9, 1912.

AN ORDINANCE PROVIDING FOR THE APPOINTMENT OF AN INSPECTOR OF WIRES, AND PRESCRIBING DUTIES OF SAME.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The officers of the Fire Department, in addition to those specified in Section 167 of the Compiled Ordinances, shall include an inspector of wires.

SEC. 2. It shall be the duty of the inspector of wires to inspect all wiring systems which are designed to carry an electric light, heat, or power current within a building, and report forth-

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with to the party owning or operating such wiring system any and all structural or other defects in the placing, location, or operation of the same, and which, in the judgment of such inspector, are or may become dangerous to person or property, and to direct such remedy for any such defects as he may deem best suited to meet the circumstances of the case; to examine and pass upon all plans for the construction within buildings of wiring systems designed to carry electric light, heat, or power current, and, in case of approval to grant permits for such construction. He shall keep a record of all his doings, including orders made and permits granted, and shall file with the building inspector a copy of every permit which he may issue. He shall also make a detailed report of his doings to the Court of Common Council at least as often as once in six months, showing the number of certificates of permit granted and the number refused, and such other facts as may be of importance relating to the discharge of his duties.

SEC. 3. No person shall construct within a building a wiring system which is designed to carry an electric light, heat, or power current until the owner or person constructing the same has filed with the inspector of wires a plan thereof, showing the whole wiring system within the building and the points of connection with outside circuits. No person shall add to or alter within a building any portion of the wiring system which is designed to carry an electric light, heat, or power current (except to make necessary repairs) until the owner or person constructing the same has filed with the inspector of wires a plan thereof and of such portion of the whole wiring system within the building and the points of connection with outside circuits as the inspector of wires shall require.

No person shall commence the work provided for in such plans until they are approved in writing by the inspector of wires. Plans and specifications shall be approved or rejected within one week of the time of filing. After a plan has been approved, no alteration therein shall be allowed, except on a new application and permit as provided in this section.

No wires specified in this section shall be covered or concealed from view until approved by the inspector of wires, who shall examine the same within three week days (legal holidays

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excepted) after notice that they are ready for inspection. No electric current shall be turned upon such wires until they have been approved in writing by the inspector of wires.

All light, heat, power, burglar alarm, telephone, or other wires leading into any building, and all electric wires placed inside of any building, whether connected with aerial or underground wires, shall be installed under the rules of the National Electrical Code as established from time to time, and no person shall be appointed inspector of wires until he has, by an examination to be conducted under the direction of the Board of Fire Commissioners, shown to said board that he is thoroughly instructed in the rules of said National Electrical Code.

All electrical apparatus and wires for conducting electricity, both permanent and temporary, while in use in any building now or hereafter used for theatrical, operatic, or public assemblies, which has a seating capacity of one thousand or more persons, shall be under the direct supervision and control of a competent electrician, and no person shall act as such electrician who has not previously obtained the written approval of the inspector of wires.

SEC. 4. Any person violating, or refusing to comply with, any order of the inspector of wires made in pursuance of the provisions of this ordinance and any person violating any of the provisions of this ordinance shall be punished by a fine not exceeding fifty dollars for each offense.

SEC. 5. The salary of the inspector of wires shall be fifteen hundred dollars a year.

SEC. 6. Section 378 of the Compiled Ordinances is hereby repealed.

Approved, January 9, 1912.

AN ORDINANCE DIVIDING THE TENTH WARD INTO TWO VOTING DISTRICTS.

Be it ordained by the Court of Common Council of the City of Hartford:

From and after the first Tuesday of April, 1912, the Tenth Ward of the City of Hartford as now established shall be divided

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into two voting districts to be known as the First and Second Voting Districts respectively, and bounded as described below. All electors residing within said First Voting District shall vote at future elections held within and for said Ward at such voting place established within said District as the Mayor, or other officer acting in place of the Mayor, shall in his warrant warning the same designate; all electors residing in said Ward within the limits of said Second Voting District shall vote at all elections hereafter held within and for said Ward at such voting place established within said District as the Mayor, or other officer acting in the place of the Mayor, shall in his warrant warning the same designate.

A moderator and other election officers shall be appointed as in other wards, but the moderator of the Second Voting District shall make his return to the moderator of the First Voting District, who shall combine the two reports and make declaration as of one ward.

FIRST DISTRICT.

Beginning at the intersection of the center line of Sigourney Street with the center line of Collins Street; thence westerly along the center line of Collins Street to the center line of Woodland Street; thence southerly along the center line of Woodland Street to the center line of Asylum Street; thence westerly along the center line of Asylum Street to the western boundary line of the City; thence southerly along the western boundary line of the City to the center line of Warrenton Avenue; thence easterly along the center line of Warrenton Avenue to Sisson Avenue; thence continuing along the same line produced to the center of the north branch of the Park River to the junction of the north and south branches thereof; thence easterly along the center of the Park River to the center line of Laurel Street; thence southerly along the center line of Laurel Street to the center line of Park Street; thence easterly along the center line of Park Street to the southerly extension of the center line of Sigourney Street; thence northerly along the southerly extension of the center line of Sigourney Street to Capitol Ave-

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nue; thence continuing along the center line of Sigourney Street to the place of beginning.

SECOND DISTRICT.

Beginning in the center line of the north branch of the Park River at the easterly prolongation of the center line of Warrenton Avenue; thence westerly along said center line of Warrenton Avenue to the western boundary line of the City; thnce southerly along the western boundary line of the City to its intersection with the center line of the right-of-way of the New York, New Haven & Hartford Railroad; thence northerly along the center line of the right-of-way of the New York, New Haven & Hartford Railroad to the center line of Park Street; thence easterly along the center line of Park Street to the cener line of Laurel Street; thence northerly along the center line of Laurel Street to the center of the Park River; thence westerly along the center of the Park River to the junction of the north and south branches thereof; thence northerly along the center of the north branch of the Park River to the place of beginning.

Approved, January 23, 1912.

AN ORDINANCE AMENDING AN ORDINANCE FIXING THE SALARY OF THE SUPERINTENDENT OF STREETS.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 54 of the Revised Ordinances of the City of Hartford, Revision of 1908, be amended by striking out of the last sentence the words "$400 for horse hire in addition to," and substituting in place thereof the words "not more than $3,500 per year and transportation," so that said section as amended will be as follows:

"54. STREET DEPARTMENT. President of the Board of Street Commisisoners, $2,000 for the salaries of the members of the board, to be divided as they shall direct by vote.

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"Clerk of the Board of Street Commissioners, not more than $2,500.00 per year.

"Superintendent of Streets, not more than $3,500.00 per year and transportation."

Approved, February 14, 1912.

AMENDMENT TO ORDINANCE REGULATING STREET TRAFFIC AND RULES FOR DRIVING.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 5 of Article 4 of the ordinance regulating street traffic and rules for driving be amended so that said section shall read as follows:

"SECTION 5. No vehicle or street car shall stop in such a way as to obstruct any street or crossing, except in case of accident or when directed to do so by a public officer, provided, however, that this section shall not be so construed as to prevent street cars from stopping to receive or discharge passengers at crosswalks."

Approved, February 27, 1912.

AMENDING THE ORDINANCE CONCERNING SALARIES IN THE POLICE DEPARTMENT.

LEAVE OF ABSENCE FOR SUPERNUMERARIES.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 200 of the revised ordinances concerning the Police Department as amended by Section 4 of the ordinances concerning salaries in the Police Department, as found on page 336 of the Journal of the Court of Common Council, 1909-1910, is hereby amended by striking out the words, "Leave of absence without loss of pay, at the rate of one day's leave of absence per month," in the fourth and fifth lines thereof, and inserting in lieu thereof

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the words, " Two days' leave of absence without loss of pay during any one month," so that said section shall read as follows:

200. The Board of Police Commissioners is hereby authorized to grant supernumerary policemen of the City of Hartford, who are doing regular police duty, two days' leave of absence without loss of pay during any one month while so employed. Nothing in this section, however, shall be deemed to authorize such grant unless such supernumerary policeman is assigned to perform and is performing regular police duty for a continuous period of at least one calendar month.

[Reconsidered and passed by a majority of each board of the Court of Common Council on March 11, 1912, the Mayor's veto to the contrary notwithstanding.]

AMENDING THE ORDINANCE CONCERNING SALARIES OF THE POLICE DEPARTMENT.

LEAVE OF ABSENCE FOR REGULAR POLICEMEN.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 198 of the revised ordinances concerning the Police Department, as amended by Section 2 of an ordinance concerning salaries in the Police Department, as found on page 336 of the Journal of the Court of Common Council, 1909-1910, is hereby amended by striking out the word " Twelve," in the second line thereof, and inserting in lieu thereof the word " Twenty-four," so that said section shall read as follows:

198. Each member of the regular force of policemen shall hereafter have a leave of absence of twenty-four (24) days in each year, without loss of pay, the days to be selected by the policemen, with the consent of the Board of Police Commissioners.

[Reconsidered and passed by a majority of each board of the Court of Common Council on March 11, 1912, the Mayor's veto to the contrary notwithstanding.]

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AN ORDINANCE RELATING TO VACATIONS IN THE POLICE DEPARTMENT.

Be it ordained by the Court of Common Council of the City Hartford:

SECTION 1. Each member of the regular force of policem of the City of Hartford shall have in addition to a leave absence as provided by an amendment to Section 198 of t revised ordinances, five days' vacation in every year. Such lea of absence and vacation shall be without deduction of pay.

[Reconsidered and passed by a majority of each board of t Court of Common Council on March 11, 1912, the Mayor's ve to the contrary notwithstanding.]

ORDINANCE RELATING TO SALARIES OF CITY OFFICIALS.

Be it ordained by the Court of Common Council of the City Hartford:

SECTION 1. Section 52 of the revised ordinances of 1908 hereby amended by striking out in line five thereof the figur "$3,000.00" and substituting in lieu thereof the figur "$3,500.00," so that said line as amended shall read, "Mayc $3,500.00 per year."

SEC. 2. An ordinance concerning the salary of the Mayor stenographer, approved May 26, 1908, is hereby amended t striking out the words, "June 15, 1908, the salary of the Mayor stenographer shall be at the rate of six hundred dollars p annum," and substituting in lieu thereof the words, "the fir Monday of April, 1912, the salary of the Mayor's stenograph shall be not more than seven hundred and twenty dollars p annum," so that said ordinance as amended shall read, "Fro and after the first Monday of April, 1912, the salary of tl Mayor's stenographer shall be not more than seven hundred ar twenty dollars per annum."

SEC. 3. Section 52 of the revised ordinances of 1908 hereby amended by striking out in line seven thereof the figur "$3,600.00" and substituting in lieu thereof the figur

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"$4,000.00," so that said line as amended shall read, "Treasurer, $4,000.00 per year."

SEC. 4. Section 52 of the revised ordinances of 1908 is hereby amended by inserting in line eight thereof, after the words "Treasurer's Clerk," the words "not more than," so that said line as amended shall read, "Treasurer's Clerk, not more than $1,800.00 per year."

SEC. 5. From and after the first Monday of April, 1912, the treasurer of the City of Hartford shall have authority to employ, in his discretion, a person to perform the duties of stenographer and such clerical duties as may be required in the treasurer's office, who shall hold such position at the pleasure of the treasurer and shall be paid for such services by the city a salary at the rate of not more than $720.00 per year.

SEC. 6. Section 52 of the revised ordinances of 1908 is hereby amended by striking out in line nine thereof the figures "$3,600.00" and substituting in lieu thereof the figures "$4,000.00," so that said line as amended shall read, "Collector, $4,000.00 per year."

SEC. 7. Section 52 of the revised ordinances of 1908 is hereby amended by striking out in line ten thereof the figures "$1,800.00" and substituting in lieu thereof the words and figures "not more than $2,000.00," so that said line as amended shall read, "Collector's Chief Clerk, not more than $2,000.00 per year."

SEC. 8. Section 52 of the revised ordinances of 1908 is hereby amended by striking out in line eleven thereof the figures "$1,650.00" and substituting in lieu thereof the words and figures "not more than $1,850.00," so that said line as amended shall read, "Collector's Clerk, not more than $1,850.00 per year."

SEC. 9. Section 52 of the revised ordinances of 1908 is hereby amended by striking out in lines twelve, thirteen, and fourteen thereof the words and figures "for such portion of the year as employed, at the rate of $1,200.00," and substituting in lieu thereof the words and figures "not more than $1,500.00," so that said lines as amended shall read, "Collector's Additional Clerk, not more than $1,500.00 per year."

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SEC. 10. Section 52 of the revised ordinances of 1908 is hereby amended by striking out in line fifteen thereof the figures "$2,100.00" and substituting in lieu thereof the figures "$2,500.00," so that said line as amended shall read, "Controller, $2,500.00 per year."

SEC. 11. Section 52 of the revised ordinances of 1908 is hereby amended by striking out in line sixteen thereof the figures "$1,000.00" and substituting in lieu thereof the words and figures "not more than $1,200.00," so that said line as amended shall read, "Controller's Clerk not more than $1,200.00 per year."

SEC. 12. From and after the first Monday of April, 1912, the controller of the City of Hartford shall have authority to employ, in his discretion, a person to perform the duties of stenographer and such clerical duties as may be required in the controller's office, who shall hold such position at the pleasure of the controller and who shall be paid for such services by the city a salary at the rate of not more than $720.00 per year.

SEC. 13. From and after the first Monday of April, 1912, the city engineer shall have authority to employ, in his discretion, a person as chemist in the engineering department, to perform such duties as are especially assigned to him by said department or any other city department, who shall hold such position at the pleasure of the city engineer and who shall be paid for such services by the city a salary at the rate of not more than $1,800.00 per year.

SEC. 14. An ordinance concerning salaries in the Police Department, approved August 10, 1909, is hereby amended by striking out the figures "$480.00," after the word "Matron," in the first section of said ordinance, and substituting in lieu thereof the figures "$600.00."

SEC. 15. An ordinance concerning the salary of the clerk of the city court, approved February 25, 1908, is hereby amended by striking out the words, "1908, at the rate of one thousand dollars per annum, and in addition thereto he shall be paid a sum at the rate of five hundred dollars a year to meet and defray the expenses of his office," and substituting in lieu thereof the words, "1912, at the rate of fifteen hundred dollars per annum," so that said ordinance as amended shall read, "The salary of the clerk

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of the city court shall be from and after April 1, 1912, at the rate of fifteen hundred dollars per annum."

SEC. 16. Section 59 of the revised ordinances of 1908 is hereby amended by striking out in line six thereof the figures "$1,800.00" and substituting in lieu thereof the figures "$2,200.00," so that said line as amended shall read, "Judge of Police Court, $2,200.00 per year."

SEC. 17. Section 59 of the revised ordinances of 1908 is hereby amended by striking out in line ten thereof the figures "$1,100.00" and substituting in lieu thereof the figures "$1,200.00," so that said line as amended shall read, "Clerk of Police Court, $1,200.00 per year."

SEC. 18. Section 59 of the revised ordinances of 1908 is hereby amended by striking out in line eleven thereof the figures "$3.00" and substituting in lieu thereof the figures "$4.00," so that said line as amended shall read, "Assistant Clerk of Police Court, $4.00 per day when acting."

SEC. 19. Section 59 of the revised ordinances of 1908 is hereby amended by striking out in line twelve thereof the figures "$1,600.00" and substituting in lieu thereof the figures "$1,800.00," so that said line as amended shall read, "Prosecuting Attorney of Police Court, $1,800.00 per year."

SEC. 20. Section 59 of the revised ordinances of 1908 is hereby amended by striking out in line thirteen thereof the figures "$400.00" and substituting in lieu thereof the figures "$600.00," so that said line as amended shall read, "Messenger of Police Court, $600.00 per year."

SEC. 21. An ordinance concerning pay of Assistant Clerk of Board of Health, approved February 24, 1909, is hereby amended by striking out the words, "1909, the salary of the Assistant Clerk of the Board of Health shall be thirteen hundred and fifty dollars ($1,350) per year," and substituting in lieu thereof the words, "1912, the salary of the Assistant Clerk of the Board of Health shall be not more than fifteen hundred dollars ($1,500) per year," so that said ordinance as amended shall read, "From and after the first of April, 1912, the salary of the Assistant Clerk of the Board of Health shall be not more than fifteen hundred dollars ($1,500) per year."

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SEC. 22. Section 60 of the revised ordinances of 1908 is hereby amended by striking out in line four thereof the figures "$1,200.00" and substituting in lieu thereof the figures "$1,500.00," so that said line as amended shall read, "Plumbing Inspector, $1,500.00 per year."

SEC. 23. Section 60 of the revised ordinances of 1908 is hereby amended by striking out in line five thereof the figures "$1,000.00" and substituting in lieu thereof the figures "$1,200.00," so that said line as amended shall read, "Bacteriologist, $1,200.00 per year."

SEC. 24. Section 61 of the revised ordinances of 1908 is hereby amended by striking out in line nine thereof the figures "$1,350.00" and substituting in lieu thereof the words and figures "not more than $1,500.00," so that said line as amended shall read, "Investigator, not more than $1,500.00 per year."

SEC. 25. An ordinance relating to pay for clerk hire in the Building Inspector's Department, approved August 11, 1908, is hereby amended by striking out the words and figures, "so much as is actually expended of $600.00 per year," and substituting in lieu thereof the words and figures, "not more than $720.00 per year," so that said ordinance as amended shall read, "Clerk hire, not more than $720.00 per year."

SEC. 26. Section 62 of the revised ordinances of 1908 is hereby amended by striking out in line six thereof the figures "$1,000.00" and substituting in lieu thereof the figures "$1,500.00," so that lines five and six as amended shall read, "Deputy Building Inspector, in lieu of all fee, $1500.00 per year."

SEC. 27. Section 63 of the revised ordinances of 1908 is hereby amended by striking out in line three thereof the figures "$400.00" and substituting in lieu thereof the words and figures "not more than $720.00," so that said line as amended shall read, 'Clerk of Registrars, not more than $720.00 per year."

SEC. 28. Section 65 of the revised ordinances of 1908 is hereby amended by striking out in line one thereof the figures "$2,200.00" and substituting in lieu thereof the figures "$2,500.00," and by striking out in line four thereof the figures "$1,000.00" and substituting in lieu thereof the words

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and figures "not more than $1,250.00," so that said section as amended shall read as follows:

"Tax Officers, Assessors, $2,500.00 per year to each member of the board. Board of Relief, $400.00 per year to each member of the board. Clerk of Assessors and Board of Relief, not more than $1,250.00 per year. Rate-maker, $400.00 per year."

SEC. 29. From and after the first Monday of April, 1912, the Board of Assessors of the City of Hartford shall have authority to employ, in its discretion, an additional clerk to perform such duties as shall be assigned to him by said board, who shall hold such position at the pleasure of said board and who shall be paid for such services by the city a salary at the rate of not more than $1,150.00 per year.

SEC. 30. Section 67 of the revised ordinances of 1908, as amended by an ordinance relating to salary of clerk to Sealer of Weights and Measures, approved July 12, 1910, is hereby further amended to read as follows: "Section 67, Sealer of Weights and Measures. Sealer of Weights and Measures, $1,400.00 per year. Clerk, not more than $840.00 per year."

SEC. 31. Section 70 of the revised ordinances of 1908 is hereby amended to read as follows: "Section 70. Janitors. Janitor of City Hall, not more than $1,200.00 per year. Janitor of Halls of Record, not more than $1,100.00 per year."

SEC. 32. All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

SEC. 33. This ordinance shall take effect from and after April 1, 1912.

Approved, March 11, 1912.

AMENDMENT TO ORDINANCE RELATING TO INCREASE OF FORCE OF THE POLICE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The ordinance entitled "An Ordinance Relating to the Police Department," approved March 1, 1910, is hereby amended by striking out the words "one hundred and sixteen

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regular policemen" in the sixth line thereof and inserting in place thereof the words "one hundred and twenty-six regular policemen."

SEC. 2. This ordinance shall take effect April 1, 1912.

Approved, March 12, 1912.

AMENDMENT TO ORDINANCE RELATING TO SALARY OF ASSISTANT CLERK OF CHARITY DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 61 of the revised ordinances of 1908 is hereby amended by striking out in the line seven thereof the figures "$600.00" and substituting in lieu thereof the words and figures "not more than $720.00," so that said line as amended shall read, "Assistant Clerk, not more than $720.00 per year."

Approved, March 12, 1912.

AN ORDINANCE RELATING TO MINIMUM WAGE PER DAY FOR UNSKILLED LABORERS OF STREET DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

The minimum rate of wage per day for unskilled laborers in the employ of the Board of Street Commissioners of the City of Hartford shall be two dollars.

Approved, March 12, 1912.

AN ORDINANCE RELATING TO LICENSES FOR AUCTIONEERS.

Be it ordained by the Court of Common Council of the City of Hartford:

That all persons licensed by the Mayor of the city to sell at auction under the provisions of Section 4648 and 4649 of the General Statutes shall pay therefor a license fee of five dollars a day for the period covered by such license.

Approved, March 26, 1912.

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AN ORDINANCE AMENDING SECTIONS 307 AND 308 OF THE REVISED ORDINANCES RELATING RESPECTIVELY TO REPORTS OF DEATHS BY THE CLERK OF THE BOARD OF HEALTH TO THE COURT OF COMMON COUNCIL AND TO THE ANNUAL REPORT OF BIRTHS BY SAID CLERK TO THE COURT OF COMMON COUNCIL.

Be it ordained by the Court of Common Council of the City of Hartford:

That Sections 307 and 308 of the Revised Ordinances be, and the same are hereby, amended to read as follows:

SECTION 307. REPORTS OF DEATHS BY CLERK TO COUNCIL. The clerk of the Board of Health shall each month prepare and submit to the Court of Common Council a report of the deaths occurring during the preceding month, which report shall exhibit in a tabular form the age, sex, and color of the deceased; shall embrace in distinct classes those under one year of age, those from one to five, those from five to ten, those from ten to twenty, and so on for each decennial period; shall show the rate per cent. of mortality for the city, and contain a summary of the causes of death. During the month of March in each year, said clerk shall prepare and submit to the Court of Common Council a report of the deaths which have taken place in the city and its several wards during the previous year, showing the age, sex, color, civil condition, occupation, and nativity of the deceased, the cause of death, and rate per cent. of mortality, classified in tabular form.

SEC. 308. ANNUAL REPORT OF BIRTHS. Said clerk shall, during the month of March in each year, submit to the Court of Common Council a report of the births which have taken place within the city and within its several wards during the preceding year, which report shall exhibit in tabular form the rate per cent. of births in the city, the number of each sex born during the year and during each month of the year, the number still-born, the color of all in each class, and the nativity of the parents.

Approved, March 26, 1912.

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AN ORDINANCE AMENDING AN ORDINANCE RELATING TO THE SALE OF HUMAN FOOD PASSED BY THE COURT OF COMMON COUNCIL, FEBRUARY 28, 1910.

Be it ordained by the Court of Common Council of the City of Hartford:

That the second paragraph of an ordinance relating to the sale of human food, passed by the Court of Common Council, February 28, 1910, be, and the same hereby is, amended by adding at the end thereof the following: "No newspaper or soiled paper of any sort may be used for wrapping articles designed for sale or delivery as human food," so that said paragraph shall read as follows:

"Every person being the owner, lessee or occupant of any rooms, stall, vehicle or place where any meat, fish, birds or fowl, fruit or vegetables, or any breadstuffs, cake, pastry, or confectionery designed or held for human food, shall be stored or kept, or shall be offered for sale, shall put and keep such room, stall, vehicle, or place and its appurtenances in a clean and wholesome condition; and every person having charge or interested or engaged whether as principal or agent, in the care or custody of any meat, fish, birds, or fowl, fruit or vegetables, or any breadstuffs, cake, pastry, or confectionery designed for human food, shall put and keep the same in a cleanly and wholesome condition, and shall not allow the same or any part thereof to be poisoned, infected, or rendered unsafe or unwholesome for human food. No newspaper or soiled paper of any sort may be used for wrapping articles designed for sale or delivery as human food."

Approved, April 16, 1912.

AMENDMENT TO ORDINANCE REGULATING STREET TRAFFIC, ETC.

Be it ordained by the Court of Common Council of the City of Hartford:

1. The ordinance entitled "An Ordinance Regulating Street Traffic and Rules for Driving in the City of Hartford," approved Dec. 12, 1911, is hereby amended by striking out the word

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" twenty " in the third line of Section 12, Article 4, and inserting in the place thereof the word " forty," so that said section when amended shall read as follows:

" SEC. 12. No vehicle shall, between the hours of nine a. m. and six p. m. on any day except Sunday, stop for a longer period than forty minutes on any of the streets, or portions of the streets, hereinafter designated, to wit: Main Street from the north line of Grove Street extended to the south line of Morgan Street extended; Mulberry Street from Main Street to Wells Street; Pearl Street from Main Street to Trumbull Street: Asylum Street from Main Street to High Street; Pratt Street from Main Street to Trumbull Street; Church Street from Main Street to Trumbull Street; Grove Street from Main Street to Prospect Street; Prospect Street from Atheneum Street to Central Row; State Street from Main Street to Market Street: Kinsley Street from Main Street to Market Street; Temple Street from Main Street to Market Street; Lewis Street from Pearl Street to Gold Street; provided, that this shall not apply to teams actually engaged in loading or unloading goods or merchandise, nor to vehicles on public stands, nor to vehicles of physicians engaged in the actual performance of their duties outside of their offices."

Approved, June 25, 1912.

AN ORDINANCE RELATING TO PAY OF MESSENGER OF THE CITY COURT.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 59 of the Revised Ordinances, entitled " Legal and Judicial Department," as amended December 28, 1910, be amended so that the fourth and fifth lines thereof, relating to the pay of the Messenger of the City Court, be amended so as to read as follows:

" Messenger of the City Court $600 per year."

This ordinance shall take effect on and after August 1, 1912.

Approved, July 15, 1912.

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AN ORDINANCE RELATING TO FIRE-STOPS ON BUILDINGS.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 373 of the Revised Ordinances of 1908 be amended so as to read as follows:

"SECTION 373. Every interior iron column supporting a partition or other brick wall or pier, shall be fireproofed by being properly encased in brick or terra cotta, or by a coating of plaster one inch thick on wire or metal lathing, or other fireproof materials. Inside the fire limits, every furred wall or partition of stone, brick, or other like material, shall be provided with fire-stops at each story, said stop to consist of brick, mortar or other fireproof materials. Stud-bearing partitions shall be provided with fire-stops at each story which may be of the same material as partition, but no stop of wood shall be less than two inches thick, by the full width of partition. Where mortar stops are used, wooden strips two inches thick may be used as supports. The spaces between the floor joists, where they rest upon the bearing partitions, shall be stopped. The stop can be of the same material as the partition, but no stop shall be less than two inches thick. The spaces between the stair strings and the joists of the landing, unless unceiled, shall be stopped at three places in each story; stops can be of wood not less than two inches thick. *In every building there shall be a line of fire-stops at every story which shall be set at the underside of each set of floor joists, and at the base of all carrying partitions, and all carrying partitions to have at least one line of bridging, said fire-stops and bridging to be at least two inches thick, and the full width of studding.* In all buildings, without regard to the number of stories, including all rooms finished off in the space enclosed by the roof, in what is termed the attic, all outside walls and all inside partitions shall be plastered down to the floor and back of all cases and wainscoting in each story."

Approved, July 15, 1912.

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ORDINANCE RELATING TO SALARY OF CITY MARSHAL.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 52 of the Revised Ordinances entitled "General City Officers" as amended Dec. 28, 1910, be amended so that the last two lines thereof relating to the pay of the City Marshal for attendance in the City Court shall read as follows: "City Marshal $500 per year and $600 per year for attendance in the City Court."

Approved, August 13, 1912.

AN ORDINANCE RELATING TO THE LICENSING OF PEDDLERS.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. No person except those exempted by the Statutes of the State shall sell or offer for sale within the city, any groceries, provisions, fruits, or any article of food, or any goods, wares, or merchandise, unless he shall have obtained a license so to do from the Chief of Police. This section, however, shall not apply to occupants of stores or shops within the city.

SEC. 2. The fee for such license shall be $5 for each year or portion thereof in all cases, except for non-residents occupying a stand or location in the highway, for which the fee shall be $15 a day or $50 a week; and unless sooner revoked, all licenses shall expire on the thirty-first day of March succeeding the date of issue thereof; but no such license shall be issued by the Chief of Police until the weights and measures of the applicant, if any such are used by him in his business, have been approved and stamped by the Sealer of Weights and Measures and a certificate to that effect from the Sealer of Weights and Measures has been exhibited with the Chief of Police.

SEC. 3. Each person so licensed shall, on exercising his vocation, wear conspicuously on his left breast a suitable badge designed and furnished by the Chief of Police with the words "Licensed Vendor" and the number of his license and the year

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such license is in force, in numerals, plainly inscribed thereon; and each person so licensed, when using for the purpose for which he is licensed, a wagon, cart, or vehicle, shall have plainly displayed on both sides of such wagon, cart or vehicle, a sign designed and furnished by the Chief of Police bearing the number of his license and the year in which such license is in force in numerals and the words "Licensed Vendor" in Roman letters, each numeral or letter to be at least three inches in height, such badge and sign to be furnished by the Chief of Police without expense to the person so licensed.

SEC. 4. It shall be the duty of the Chief of Police to keep a record of all licenses granted under the provisions of this ordinance in a book provided for the purpose, giving the number and date of each license; name, age, and residence of the person licensed; the amount of license fee paid, and also the date of revocation of all licenses revoked as hereinafter provided. Said Chief shall further keep a detailed account of all his receipts for such licenses, and make a return thereof annually to the City Treasurer. Said Chief shall, at the end of each month, report to the Sealer of Weights and Measures the name, age, and residence of each person licensed under the provisions of this ordinance, together with the number and date of each license issued during such month.

SEC. 5. Any person who shall engage in the business aforesaid without being duly licensed as herein provided, or who shall violate any of the provisions of this ordinance, shall be fined not exceeding ten dollars, and the Judge of the Police Court may, in his discretion, revoke the license of any person convicted of a violation of any of the provisions of this ordinance, (or of any ordinance of the City of Hartford relative to the storing, handling, or sale of food, or any rule or regulation of the Board of Health or the Police Department in relation thereto, or for any other proper cause, upon the presentation of due evidence).

SEC. 6. All ordinances, or parts of ordinances, inconsistent herewith are hereby repealed.

Approved, August 13, 1912.

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AN ORDINANCE CONCERNING THE APPOINTMENT, DUTIES, AND COMPENSATION OF THE SECRETARY TO THE MAYOR.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. The office of the Mayor's stenographer is hereby abolished, and the Mayor of the City of Hartford is hereby authorized to appoint from time to time some proper person who shall be a duly qualified citizen of the City of Hartford, to act as secretary to the Mayor and to serve during his pleasure.

SEC. 2. The duties of such officer shall be to act as secretary and stenographer to the Mayor, under his instructions, and to act as assistant secretary and stenographer to the Board of Contract and Supply, Commission on City Plan, Public Dock Commission, Board of Finance and such other commissions or committees of which the Mayor is a member as the Mayor may request.

SEC. 3. The salary of said officer shall be at the rate of Twelve Hundred Dollars per year.

Approved, October 15, 1912.

AN ORDINANCE RELATING TO THE LICENSING OF PLUMBERS.

Be it ordained by the Court of Common Council of the City of Hartford:

That the Ordinance approved by the Court of Common Council March 1, 1910, the same being an amendment to Section 296 of the Revised Ordinances, be amended to read as follows:

"The Board of Health shall issue licenses to plumbers as hereinafter provided and shall keep a record of all licenses so issued. Every plumber now carrying on his trade in the City of Hartford who has not received a plumber's license from the Board of Health Commissioners, shall, on or before the first day of December, 1912, and each plumber desiring hereafter to carry on his said trade, shall, before commencing business, apply to the Board of Health for a license as a plumber, and shall, before receiving such license, be examined as to his qualifications as a

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plumber in accordance with such rules and regulations as the Board of Health may prescribe. Every master plumber while engaged in the plumbing business in the City of Hartford, who is not himself a licensed plumber, shall have in his employ at least one licensed plumber. Every master plumber shall display in a prominent and conspicuous place in his place of business his own license, or, if he is not himself a licensed plumber, the license of at least one of the licensed plumbers who may at that time be in his actual employ, and shall not so display any license, other than his own, unless the plumber holding said license is actually working for him."

Approved, October 29, 1912.

AN AMENDMENT TO SECTION 379 OF THE REVISED ORDINANCES OF 1908 RELATING TO FRONTAGES AND ENTRANCES TO THEATERS.

Be it ordained by the Court of Common Council:

That Section 379 of the Revised Ordinances be and the same is hereby amended by adding at the end of the first paragraph of said section, the following:

"But when said building has no immediate street frontage, its main entrance shall open upon an area or unoccupied space at least thirty feet in width and equal in area to one-half of the auditorium, and said court space shall be directly connected with a street or public space by passages which have an aggregate total width of at least forty feet, no one of which passages, however, shall be less than ten feet in width, so that said Ordinance as amended shall read as follows:

"There shall be at least one exit on this front, which shall be in no case less than five feet in width, and of such greater width in proportion to the seating capacity of the hall as an allowance of twenty inches for each one hundred persons will in the aggregate require. There shall be other independent exits of the same aggregate capacity. There shall be open courts on the sides not less than ten feet wide, with an exit or corridor from the court to the street. All rooms in theaters for the use

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of persons employed therein shall have two independent exits. All doors shall open outwards, and shall not be placed to reduce the passages above required. Every exit shall have over the same, on the inside, the words,' This way out,' in legible letters not less than four inches high. Plans showing the exits and stairways shall be printed on every program or play bill. All exits from the building shall be open at the beginning of every performance and whenever necessary and shall have fastenings on the inside only, but when said building has no immediate street frontage, its main entrance shall open upon an area or unoccupied space at least thirty feet in width and equal in area to one-half of the auditorium, and said court space shall be directly connected with a street or public space by passages which have an aggregate total width of at least forty feet and two of which passages, however, shall not be less than ten feet in width."

Approved, January 14, 1913.

ORDINANCE RELATING TO SALARY, GRADING, PAY, LOSS OF TIME, LEAVE OF ABSENCE AND VACATION OF MEMBERS OF THE FIRE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

1. That Section 56 of the Revised Ordinances be and is hereby amended to read as follows:

Clerk of the Board of Fire Commissioners	$1,800	per year
Stenographer Board of Fire Commissioners at the rate of not more than	624	"
Chief of Fire Department	2,700	"
First Deputy Chief of Fire Department	2,000	"
Second Deputy Chief of Fire Department	1,700	"
Master Mechanic	1,600	"
Electrical Inspector	2,000	"
Asst. Electrical Inspector	1,500	"
Linemen at the rate of not more than	1,200	"
Captains, each at the rate of	1,400	"
Lieutenants, each at the rate of	1,300	"

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Engineer and Mechanic at the rate of .....$1,400 per year
Engineers at the rate of ..... 1,350 "
Inspector of wires ..... 1,500 "

The regular firemen commonly known as privates, shall be divided into two grades. All firemen shall serve the first year after appointment in the second grade and thereafter in the first grade.

The pay of regular firemen shall be at the following rates:
First grade .....$1,200 per year
Second grade ..... 1,050 "

Pay of men on the substitute roll of the fire department employed in place of regular men or at fires, or on special duty, shall be at the same rate as the second grade privates, to wit:

At the rate of .....$1,050 per year

2. At the discretion of the Board of Fire Commissioners allowance may be made for time lost through injury received in the lines of duty and also allowance of half pay for time lost by reason of sickness.

3. The person occupying the position of master mechanic shall have charge of the department machine shop and perform such other duties as the Board of Fire Commissioners may direct and shall have the rank of Deputy Chief.

4. That the duties of the engineer and mechanic shall include the regular duties of engineer, and the person occupying said position shall assist in the department machine shop. Appointment to this grade shall be optional to the Board of Fire Commissioners.

5. That the position of stenographer of the Board of Fire Commissioners be and is hereby created and shall include the usual duties of stenographer and office assistant to the Clerk of Board of Fire Commissioners and Inspector of Wires.

6. One day's leave of absence in each ten, and ten days vacation annually, shall be granted to the permanent force of the Fire Department. Such leave and vacation shall be without deduction in pay.

7. All ordinances and amendments of ordinances inconsistent herewith are hereby repealed.

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8. This ordinance shall take effect on and after April first, 1913.

Approved, January 14, 1913.

AN AMENDMENT TO SECTION 239 OF THE REVISED ORDINANCES RELATING TO DUTIES OF THE CORPORATION COUNSEL.

Be it ordained by the Court of Common Council of the City of Hartford:

RESOLVED, That Section 239 of the Revised Ordinances be amended by adding thereto the following, to wit:

It shall be the duty of the Corporation Counsel to make report from time to time to the Court of Common Council whenever requested so to do regarding any matter relative to amending the City Charter to be referred by him as Corporation Counsel to any session of the General Assembly.

Approved, January 14, 1913.

AN AMENDMENT TO SECTION 10 OF ARTICLE 4 OF THE TRAFFIC ORDINANCE.

Be it enacted by the Court of Common Council of the City of Hartford:

That Section 10 of Article 4 of the Ordinances regulating Street Traffic approved September 12th, 1911, be amended by striking out the word "either" in the second line of said section and substituting therefor "a westerly," so that said section as amended shall read as follows:

"Street cars passing through Pearl Street in a westerly direction shall not stop between the Phoenix Mutual Life Insurance Company's Building, No. 49 Pearl Street, and Main Street for the purpose of discharging, or taking on passengers."

Approved, March 11, 1913.

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AN ORDINANCE CREATING POSITION OF MECHANIC OF THE POLICE DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford, that:

Section 1. The Board of Police Commissioners shall have power to select from time to time from the supernumerary force of the Police Department and to appoint to serve during the pleasure of said Board, a duly qualified person who shall be known as "Mechanic of the Department." He shall have charge of and shall keep in good order and condition and in proper repair all gasoline machines and motor vehicles belonging to or in charge of said Department and shall perform such other duties as from time to time may be prescribed by said Board.

Sec. 2. The daily hours of duty of such Mechanic of the Department shall be also prescribed by said Board; he shall receive the pay of a patrolman of the first grade, and shall be entitled to the same vacation that such a patrolman now receives under existing Ordinances.

Approved, March 25, 1913.

AMENDMENT TO ORDINANCE RELATING TO THE POWERS OF THE BUILDING INSPECTOR, ETC.

Be it ordained by the Court of Common Council:

That Sections 320, 321 and 392 of the Ordinances be amended so as to read as follows:

Section 320. INSPECTION OF BUILDINGS. It shall be the duty of said Inspector to examine the condition of all buildings within the City limits and to serve notice in writing upon the builders, owners or architects of such structures, as he deems to be unsafe or insecure in any particular, by reason of the mode or manner of construction, or material used in the construction thereof, or from any other cause or reason, and to order such changes in the mode or manner of construction and materials used, or such alteration or change in such building, or part thereof, as he may deem necessary to make said building secure and safe; and said Building Inspector may order such

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buildings or any part thereof to be taken down or demolished if he deem such action necessary for the public safety.

Sec. 321. RIGHT TO ENTER. The said Inspector is hereby empowered to, and whenever, in his judgment, occasion may require, shall enter into and upon any building, premises, staging, or other structure for the purpose of examining the same in reference to its safety, and attending to the performance of his duties as required by law, and shall order the same altered or demolished to his reasonable acceptance at the expense of the owner thereof, or of the owner of the land upon which the same is located.

Sec. 392. PENALTY. If any person shall violate any provision of this ordinance or wilfully disobey or refuse to conform to any written order of the building inspector as aforesaid, unless the same shall have been set aside or modified by said City Court on an appeal, or by said board of arbitrators on an appeal, or any order or decree of either said court or said board of arbitrators made by either on an appeal as aforesaid, or any order of the board of health relating to ventilation, light or drainage, he shall be guilty of a misdemeanor, and may be punished on conviction thereof, by a fine of not more than two hundred and fifty dollars, and each succeeding period of seven days in the disobedience or refusal to conform to such order shall be considered a separate offense.

Approved, June 10, 1913.

AMENDMENT TO SECTION 61 REVISED ORDINANCES RELATING TO SALARIES OF CHARITY DEPARTMENT.

Be it ordained by the Court of Common Council of the City of Hartford:

Section 61 of the Revised Ordinances, of the City of Hartford, is hereby amended by striking out the words, "Eleven thousand two-hundred dollars" in the 12th and 13th lines of said section, and substituting therefore the words, "Fourteen thousand dollars."

Approved, July 15, 1913.

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AN ORDINANCE PROHIBITING CERTAIN FORMS OF ADVERTISING IN THE CITY STREETS.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. No advertising vehicles, trucks, vans or wagons shall be allowed in the streets of the City of Hartford. Nothing herein contained shall prevent the putting of business notices upon ordinary business wagons, so long as such wagons are engaged in the usual business or work of the owner, and not used merely or mainly for advertising.

SEC. 2. Nobody shall place or carry upon his person, or cause to be placed or carried upon the person of another, on any sidewalk or street in the City of Hartford, any show-board, placard, or sign, for the purpose of there displaying the same.

SEC. 3. The word "vehicles" as used in Section 1, shall be deemed to include wagons, trucks, carts, cabs, carriages, stages, omnibusses, motors, automobiles, locomobiles, locomotives, bicycles, tricycles, sleighs, or other conveyances for persons or property.

SEC. 4. Any violation of Sections 1 and 2 of this Ordinance shall be a misdemeanor and be punished by a fine not exceeding twenty (20) dollars.

SEC. 5. An Ordinance prohibiting certain forms of advertising in the City Streets, passed by the Court of Common Council, and approved October 11, 1910, is hereby repealed.

Approved, July 15, 1913.

AN ORDINANCE AMENDING AN ORDINANCE RELATING TO THE REGULATION OF HANDLING GARBAGE.

Be it ordained by the Court of Common Council of the City of Hartford:

That Section 124 of the Ordinances of the City of Hartford, be amended to read as follows:

Every person owning or in charge of any place where meals or food or drinks are prepared for, or furnished to, human beings, or having in possession or being responsible for any garbage,

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shall cause such garbage to be placed in suitable water-tight covered metal vessels, in some part of his premises convenient for removal or in some place designated by the Board of Health, and shall not mingle or cause or allow to be mingled any such garbage with ashes, store sweepings, rubbish or other waste materials.

Said garbage shall be separately removed by, or under the direction of the Board of Street Commissioners, in water-tight covered receptacles or carts, under such rules and regulations as said Board may from time to time establish, and at such times not less than 3 times a week from May 15th to October 15th, in each year, and not less than twice a week from October 15th to May 15th, as said Board may prescribe.

The removal, disposition and destruction of said garbage shall be in the least offensive and most sanitary manner possible.

Approved, July 15, 1913.

ORDINANCE RELATING TO THE SALE OF HUMAN FOOD.

Be it ordained by the Court of Common Council:

That the second paragraph of an ordinance relating to the sale of human food passed by the Court of Common Council, February 28, 1910, and approved March 1st, 1910, as amended April 16, 1912, be and the same is hereby amended so as to read as follows:

Every person being the owner, lessee or occupant of any room, stall, vehicle or place where any article used by man to be eaten or drunk, shall be stored or kept, sold or offered for sale, shall put and keep such place and its appurtenances in a clean and wholesome condition; and no person either principal or agent, having charge of or interested or engaged in the care or custody of any such article so used by man, except fruits and vegetables that are peeled, pared or cooked before consumption, shall keep, sell, offer for sale, display or transport any such article unless the same is protected from dust, dirt, flies, soiled papers, newspapers, and all kinds of contamination.

Approved, September 9, 1913.

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AN ORDINANCE RELATING TO ELIGIBILITY FOR APPOINTMENT TO ANY OFFICE OR WORK BY THE CITY OF HARTFORD.

Be it enacted by the Court of Common Council:

SECTION 1. No person shall be eligible for appointment to any office in the City of Hartford, nor for employment in any work done by the City of Hartford, or any of the departments thereof, unless such person shall have been a resident of the City of Hartford at least six months prior to said appointment or employment.

SEC. 2. This ordinance may be suspended by two-thirds vote of the Court of Common Council.

SEC. 3. Section 86 of the Ordinances of the City of Hartford is hereby repealed.

[Reconsidered and adopted by a rising vote of 13 to 6 in the Board of Aldermen, October 27, 1913, the Mayor's veto to the contrary notwithstanding.

Common Council Board concurred by a rising vote of 27 to 9].

AN ORDINANCE RELATING TO THE SINKING FUND.

Be it enacted by the Court of Common Council of the City of Hartford:

That the Court of Common Council shall annually lay a tax of at least one mill on the dollar on the City's Grand List for the purpose of extinguishing the City's funded debt, and

That the Board of Finance shall each year include in their annual estimate of moneys necessary to be appropriated for the expenses of said City, for the year ensuing beginning April first, a sum equal to at least one mill on the dollar to be laid on the City's Grand List for a Sinking Fund to extinguish the City's funded debt.

Approved, October 27, 1913.

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AN ORDINANCE REGULATING THE PASSAGE OF CRIMINALS THROUGH THE CITY STREETS.

Be it ordained by the Court of Common Council of the City of Hartford:

SECTION 1. No person having in his custody any person or persons charged with or convicted of crime, and who may be handcuffed or shackled, shall convey or cause to be conveyed such person or persons through or upon any street in the City of Hartford in any conveyance in which the public are allowed to ride at the same time.

SEC. 2. Any violation of Section 1 of this ordinance shall be deemed a misdemeanor, and shall be punished by a fine not exceeding twenty dollars.

Approved, November 11, 1913.

AMENDMENT TO SECTION 410 OF ORDINANCE RELATING TO LICENSES OF AMUSEMENTS, ETC.

Be it ordained by the Court of Common Council of the City of Hartford:

That section 410 of the Ordinances be amended by adding at the end of the 13th line thereof the following words, "Athletic halls used exclusively for holding athletic games, contests and exhibitions, $75 per year," so that section 410 as amended shall read:

"License fees, inspection. Every licensee before he receives any license for a theatrical exhibition, public show, public amusement, athletic contest, or other performance or exhibition of any description to which admission is obtained by the payment of money or the delivery of any valuable thing, or by any ticket or voucher obtained for money or any valuable thing, shall pay for such license, covering such performance or exhibition, as follows:

Circus, Wild West Show, and out-door and tent performances of an itinerant and transient character, $75.00 per day.

Athletic contests, for each contest, $15.00.

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Theaters, for all performances that may be held in them $75.00 per year; athletic halls used exclusively for holding athletic games, contests and exhibitions, $75.00 per year.

All other performances, public shows, public performances or exhibitions, $1.00 per day, and every such licensee, as a condition for obtaining such license, shall cause facilities for entering and inspecting his place of amusement and viewing the exhibition of performances therein to be furnished at all times to the mayor when applying therefor."

Approved, December 23, 1913.

AMENDMENTS TO SECTIONS 437 AND 438 OF THE REVISED ORDINANCES OF 1908 RELATING TO RATE-MAKER, DUTIES. CITY COLLECTOR. TAX WARRANTS. AND DELINQUENT TAX PAYERS.

Be it enacted by the Court of Common Council of the City of Hartford:

That Sections 437 and 438 be amended to read as follows:

437. "Rate-maker, duties. City collector. Tax Warrants. Delinquent tax payers. The Court of Common Council shall, at any regular meeting held on or before the first day of April in 1914 and biennially thereafter, appoint, by concurrent vote, a city rate-maker, who shall hold his office for the term of two years, and who shall make out, certify, and report to the collector before the first day of June in each year, a rate bill setting forth the proportion which each taxable person shall pay according to law. The collector of the City, in collecting any tax laid by the Court of Common Council, shall have the powers and conform to the regulations conferred upon and prescribed for the collection of town taxes by the public statutes of the state, after having received from the Mayor a warrant for the collection of any such tax, which warrant the Mayor is empowered to issue upon application of the Collector. And the Collector shall be accountable to the Mayor in the same manner as collectors of town taxes are to the selectmen; and the Mayor may also issue his warrant to and

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thereby require and empower the city Marshal to collect from any negligent collector the sums due from such collector to the City Treasurer; which warrant may be against the lands, chattels, and body of such collector; and said warrant shall be proceeded with like executions in civil actions.

438. Annual tax. Special tax. The Court of Common Council, at any regular meeting thereof, held on or before the first day of April, in each year, shall lay a tax upon the polls and ratable estate within the city, as the annual tax for the current year, for the purpose of defraying any lawful expense, or paying the principal or interest upon any lawful debt, or discharging any lawful liability of the City of Hartford; and it shall be its duty to lay such taxes annually, at least, upon the proper list, provided that taxes authorized by law for any specific purpose, and other than the ordinary annual tax of the city, may be laid at any regular meeting of the Court of Common Council."

Approved, January 27, 1914.

AN ORDINANCE REGULATING THE EMISSION OF SMOKE IN THE CITY OF HARTFORD.

Be it ordained by the Court of Common Council of the City of Hartford:

1. It shall be the duty of the Building Inspector to investigate all violations and complaints of violations of this ordinance; to collect evidence in regard to the same, and present such evidence to the Prosecuting Attorney for his action.

2. Before any person, firm or corporation shall construct or alter any stationary steam plant, boiler or furnace within the city limits, he shall make application at the office of the Building Inspector for a permit for that purpose, and shall furnish a written statement with plans and specifications in duplicate, giving the style and dimensions of such steam plant, boiler or furnace, together with the height and size of stack or chimney and the method or device to be adopted for the prevention of the emission of dense smoke therefrom; and if the matters described in said

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application and statement of plans and specifications be approved by said Building Inspector, he shall issue a permit for the construction or alteration of such steam plant, boiler or furnace, keeping for the records of his office one set of the application papers. The provisions of this section shall not apply to minor necessary or emergency alterations or repairs which do not increase the capacity of said plants or involve any substantial alteration in structure or any alteration in the efficiency or method of smoke prevention.

3. The emission of dense smoke within the city from smokestack of any locomotive for a period of more than 30 seconds in any one period of five minutes, is hereby declared a nuisance, provided however that stacks of locomotives moving trains of six cars or more shall be permitted to emit smoke for one minute in any five minute period, provided that the emission of smoke of such darkness or density for a period not exceeding three minutes from the stack of any locomotive which is unexpectedly stopped by breakdown, signal or sudden emergency is permitted, and that stacks of locomotives in and about roundhouses be permitted to emit dense smoke for 30 minutes during the period when the fire is being built or rebuilt after cleaning. The emission of dense smoke upon the river adjacent to the city from the smokestack of any steam vessel for a period of more than five minutes in any one hour is hereby declared to be a nuisance. The emission of dense smoke within the city from the smokestack of any steam roller, steam derrick, steam pile driver, tar kettle or other similar machine or contrivance, or from the smokestack or chimney of any building or upon any premises, except for nine minutes in any one hour during which period the fire box is being cleaned or a new fire is being built therein is hereby declared a nuisance.

The number of minutes or seconds during which smoke may be emitted in any period as provided in this section shall be deemed to mean the aggregate number of minutes or seconds and such minutes or seconds need not be consecutive.

The Building Inspector may order any nuisance as above specified abated, and shall cause said order before its execution to be served on the owner or person in charge of the property or thing upon or in connection with which such nuisances exists, or

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such of them as are in the city and can be found. It shall be the duty of the police of said city to execute the order of the Building Inspector when so requested by said Inspector. If the party served with an order by the Building Inspector before the execution of said order is begun apply to said Inspector for a modification or stay of such order it shall be the duty of the Inspector to suspend temporarily or modify it and give the party, as the case may require, a reasonable and fair opportunity to be heard, and to present proofs and facts against the execution of the order, or in favor of its modification. Abatement of any such nuisance may be in addition to the fine hereinafter provided.

Any person or corporation owning, operating or in charge or control of any locomotive, steamboat, steam tug, steam roller, steam derrick, steam pile driver, tar kettle, or other similar machine or contrivance, or of any building or premises, who shall cause or permit the emission of dense smoke within the city, in contravention of the provisions of this section, from any smoke-stack, chimney or other contrivance used for the emission of smoke shall be deemed guilty of a violation of this ordinance and be punished as hereinafter provided.

For the purpose of grading the density of smoke the Ringlemann smoke chart, as published and used by the Federal Bureau of Mines, shall be the standard of comparison. Smoke shall be considered "dense" within the meaning of this ordinance when it is of greater density than No. 3 of said chart.

4. The issuance and the delivery by the Building Inspector of any permit for the construction, reconstruction, alteration or repair of any plant or chimney connected with a plant, shall not exempt any person or corporation from prosecution on account of the emission or issuance of dense smoke caused or permitted by such person or corporation.

5. Temporary permits for the emission of dense smoke, covering periods not exceeding six months from the date on which this ordinance shall take effect, may be granted by the Building Inspector to any person or corporation applying for the same and satisfying the said Building Inspector that he will make changes or improvements to prevent the emission of dense smoke before the expiration of the period for which such temporary permit is

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granted. But after six months has elapsed from the time when this ordinance takes effect no further temporary permits shall be granted unless the Building Inspector is satisfied that public convenience requires it, and permits so granted shall be for a period not exceeding six months.

6. The provisions of this ordinance shall not apply to buildings used exclusively for private residence purposes, in which the number of families occupying apartments shall be less than nine. Nor shall the provisions of this ordinance apply to the City Fire Department.

7. Any violation of the provisions of this Ordinance shall be a misdemeanor, and shall be punished by a fine of not more than $50 for the first offense and not more than $100 for each succeeding offense. The prosecution or maintenance of any alteration or construction without a permit, as provided in Section 2 hereof, shall be considered a single and separate offense each day of such prosecution or maintenance, and each and every violation of this ordinance in any other respect shall constitute a separate offense.

Approved, February 10, 1914.

AN AMENDMENT TO SECTION 82 OF THE REVISED ORDINANCES OF 1908 RELATING TO DEPARTMENTAL INSURANCE OF CITY PROPERTIES.

RESOLVED, That ordinance number Eighty-two (82) of the City Ordinances be amended by inserting the following words, (excepting the Fire Department) said ordinance as amended to read as follows:

Departments of the City (excepting the Fire Department) having the care and custody of insurable property belonging to the city, shall cause all such property to be insured in the name of the city, loss payable to the City Treasurer, and said Treasurer shall receipt in the name of the city, for all moneys coming due on account of policies of insurance issued on such property, and the expense of such shall be a charge upon the accounts of the respective departments having property insured in the name of the city.

Approved, February 10, 1914.

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AN ORDINANCE CONSTITUTING EIGHT HOURS OF SERVICE OR LABOR A WORKING DAY FOR CITY EMPLOYEES.

Be it ordained by the Court of Common Council of the City of Hartford:

Eight hours of service or labor shall constitute a working day for all persons employed by the City in any City office or by any of the City Departments, Commissions or Boards, who are paid on a daily basis; for all work in excess of eight hours on any one day such persons shall receive extra compensation at the same rate as that at which they are paid for the eight hours which constitute a regular working day. The provisions of this ordinance shall not apply to the employees of the Fire and Police Departments.

Approved, February 24, 1914.

AN ORDINANCE RELATING TO DAZZLING HEADLIGHTS.

Be it enacted by the Court of Common Council of the City of Hartford:

SECTION 1. That no operator of an automobile, trolley car or other motor vehicle while the same is being used or operated upon the public highways, squares or parks of the City of Hartford, shall use any acetylene, electric or other headlight unless the same be screened, covered or the light thereof dispersed so as not to dazzle or blind other users of said highways, squares or parks.

SEC. 2. The Fire and Police Department vehicles shall be exempt from the provision of this ordinance, when engaged in actual service.

SEC. 3. Any person violating this ordinance shall be fined not more than five dollars ($5.00) for the first offense and not more than ten dollars ($10.00) for each subsequent offense.

Approved, February 25, 1914.

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AN ORDINANCE AMENDING SECTION 57 OF THE REVISED ORDINAN
OF 1908 RELATING TO GRADE AND WAGES OF THE POLICE FORC

Be it ordained by the Court of Common Council of the City
Hartford:

That Section 57 of the Revised Ordinances as amended by ordinance approved, August 10th, 1909, be amended by substi ing for sub-divisions 2, 3, and 4 of said Section 1, the following

2. The policemen of the regular force shall be divided i two grades. All policemen shall serve the first three years a appointment in the second grade and thereafter in the first gra

3. The pay of policemen of the regular force shall be at following rates: First grade $3.25 per day of actual serv Second grade, $3.00 per day of actual service.

4. The pay of the supernumerary policemen shall be $2.50 day while acting in the place of or performing the duties o regular policeman, until such time as the such supernumer policemen shall have performed six months of regular service the City, and $2.75 per day thereafter, and no allowance shall made for any extra time of service during any day of 24 hours

Approved, February 25, 1914.

AMENDMENT TO ORDINANCE RELATING TO THE INCREASE OF FO
OF THE POLICE DEPARTMENT.

Be it ordained by the Court of Common Council of the City
Hartford:

SECTION 1. The ordinance entitled " An Ordinance Relat to the Police Department ", approved March 1st, 1910, and ame ed March 12, 1912, is hereby amended by striking out the wo " one hundred and twenty-six regular men " in the 6th line of ordinance approved March 1st, 1910, as amended March 12, 19 and inserting in place thereof the words, " one hundred and for one regular policemen ".

SECTION 2. This ordinance shall take effect April 1st, 191

Approved, February 25, 1914.

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LEGISLATIVE ENACTMENTS

CONCERNING THE

CITY OF HARTFORD

PASSED AT THE

Session of 1913

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LEGISLATIVE ENACTMENTS

[Substitute for Senate Bill No. 265.]
[24.]

AN ACT CONCERNING THE EQUALIZATION OF SCHOOL DISTRICT TAXES WITHIN THE CITY OF HARTFORD.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. Section five of a resolution amending the charter of the city of Hartford creating a board of finance, approved April 5, 1905, being section eighty-five of the compiled charter of the city of Hartford, is hereby amended so that the fourth sentence thereof shall read as follows: In the preparation of said estimates, said board shall give notice to each board and department and to the chairmen of each school district committee of a definite time when and place where it will meet to consider the needs of such board, department, or school district; and said board of finance shall recommend such tax upon the polls and ratable estates within the limits of said city as it shall deem necessary to meet such expenses.

SEC. 2. Each school district committee of the city of Hartford shall annually submit to the board of finance of said city in such form and at such time as said board shall require, its report showing the detailed expenses of the district for its fiscal year last past, and, on or before February first in each year, shall submit to said board of finance a detailed statement of the estimated expenses of the district for the next ensuing fiscal year.

SEC. 3. For the first year of the operation of this act said board of finance shall recommend to the court of common council the levy of a tax of five mills upon the city's grand list, and the appropriation of the proceeds thereof for the purposes of school maintenance in the various districts, and said board of finance shall apportion to each district such proportion of the proceeds of said tax as the total number of pupils registered in each district during the fall term immediately preceding February first bears

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to the total number of pupils registered in all the school districts during said fall term.

SEC. 4. For the second year of the operation of this amendment and for the years succeeding, said board of finance, after consultation with the several school district committees of said city, shall annually recommend to the court of common council of said city the levy and appropriation for the purposes of the several school districts of such tax as it may deem necessary for the maintenance of the schools in said districts, said tax to be levied upon the city's grand list and apportioned to the several districts in accordance with the method prescribed in section three of this act.

SEC. 5. For the purposes of the distribution to the school districts of the tax on the shares of stock of certain corporations, as provided by section 2333 of the general statutes, the district rate in all the school districts shall be the rate determined under the provisions of this act, and the amount of such tax shall be distributed to said school districts in accordance with the number of registered pupils as hereinbefore provided.

SEC. 6. This act shall remain in force for not less than three years from April 1, 1913, and no vote for consolidation of school districts in said city shall be taken at the annual city and town meetings to be held in said city on the first Tuesdays in April, 1913, 1914, and 1915. If said town and city of Hartford shall hereafter vote in favor of consolidation of school districts within its limits, said consolidation shall be established under a certain plan fully described and set forth in a resolution approved September 12, 1911, a sub-title whereof is "Substitute for Senate Joint Resolution No. 30, Resolution establishing a Board of Education for the City of Hartford." If at annual city or town meetings of Hartford to be holden on the first Tuesday of April, 1916, or subsequent years, a majority of the voters at said meetings shall vote in favor of consolidation of school districts, then consolidation shall be put into effect on the first day of July following such vote under the provisions of said substitute for senate joint resolution No. 30, entitled "Resolution establishing a Board of Education for the City of Hartford." Such resolution, in case of such vote by the city or town meeting in favor of

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consolidation, shall become an amendment forthwith to the charter of the city of Hartford.

SEC. 7. An act concerning school taxes in the city of Hartford, approved May 19, 1905, being sections eighty-seven, eighty-eight, eighty-nine, and ninety of the compiled charter of said city, is hereby repealed.

Approved, April 3, 1913.

[Substitute for Senate Bill No. 297.]
[120.]

AN ACT CONSOLIDATING THE HARTFORD THEOLOGICAL SEMINARY AND THE HARTFORD SCHOOL OF RELIGIOUS PEDAGOGY, UNDER THE NAME OF THE HARTFORD SEMINARY FOUNDATION.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The Hartford Theological Seminary, incorporated by resolution approved May, 1834, under the name of The Theological Institute of Connecticut, and The Hartford School of Religious Pedagogy, incorporated by resolution approved April 14, 1903, are hereby merged into a single corporation in the nature of an interdenominational university of religion, located at Hartford, under the corporate name of The Hartford Seminary Foundation. Said consolidated corporation shall have all the rights, privileges, and franchises heretofore held by each of said corporations, and all the property and property rights of each of said corporations are hereby vested in the consolidated corporation.

SEC. 2. The object of this corporation shall be to promote the spread and to deepen the influence of Christianity by the thorough training of men and women for the various forms of Christian service. In pursuance of this end, to train men for the office and work of the ministry, to train men and women for the work of religious education in all its branches, and for such other callings and forms of service as seek to promote Christian worship and work; to train men and women for service in such institutions as are established for the promotion of the social welfare of mankind in the name and spirit of the Christian faith; to train men and women for service in the foreign mission field; to adopt any means desired by it for the encouragement and prosecution of

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scholarly research in fields of knowledge required for and associated with its various forms of training, and to do any other thing deemed by it appropriate to the carrying out of its primary object.

SEC. 3. The president and trustees of The Hartford Theological Seminary, in office at the time of the approval of this act, are hereby made the members of the consolidated corporation, with power to contract; to sue and be sued; to prosecute and defend any action; to plead and be impleaded; to have and use a common seal; to acquire, hold, and use any property and estate, real or personal, now held by each of said corporations or which it may hereafter acquire by purchase, gift, or otherwise, and the same to lease, sell, or convey.

SEC. 4. All conveyances, gifts, bequests, devises, and donations of property or estate of whatever nature, real or personal, heretofore made to or for the use and benefit of either or both of said corporations hereby merged are hereby confirmed in said The Hartford Seminary Foundation, subject to such restrictions, conditions, uses, or trusts as were a part of such gifts, and all conveyances, gifts, bequests, devises, or donations which may hereafter be made by name either to the said The Hartford Theological Seminary or to The Hartford School of Religious Pedagogy or to any school or schools which may be conducted by this corporation, shall be valid gifts or conveyances to said corporation as fully as if made to it by its proper corporate name and may be received and accepted by said corporation, subject to all restrictions, conditions, uses, or trusts which may be a part of such gifts, and shall be held and used by it for the benefit of the particular school or schools named in such instruments in accordance with the expressed intent of such gifts or conveyances. All property, funds, or estate hitherto given or conveyed to The Hartford Theological Seminary for the use of the seminary shall be held by the consolidated corporation for the benefit of its theological department or divinity school, in such way as to effectuate the intent and purpose of the donor.

SEC. 5. The care, control, and disposition of the property and the management of the affairs of said corporation shall be vested in a board of trustees, to consist of the president of The

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Hartford Seminary Foundation, ex officio, and not less than twenty-four nor more than thirty-six additional trustees, to be elected as follows: The trustees of The Hartford Theological Seminary now in office shall be the first board of trustees, and shall, at their next meeting, by vote, or in default thereof, by lot, enroll themselves into three classes of not more than twelve each, one class to hold office for the term of three years from May, 1912; another for two years from that date; and the third for one year from that date; and in each year thereafter not less than eight nor more than twelve trustees shall be elected for the full term of three years, such election to be made in the following manner: To perpetuate in a modified form the relationship which has existed since the incorporation of The Theological Institute of Connecticut, between that corporation and The Pastoral Union of Connecticut, it shall be the right and privilege of The Pastoral Union of Connecticut to elect by ballot in each year three of the trutsees, such election to be made at a legal meeting of said union to be held in Hartford in the month of May and prior to the annual meeting of this corporation, and the secretary of said union, in case of such election, shall thereupon certify to the board of trustees of this corporation, before its annual meeting, the names of such persons so elected by the union, and when so certified the persons so elected by the union shall become members of said board of trustees of this corporation for the term of three years. All persons who have hitherto been graduated from The Hartford Theological Seminary, all persons who have completed a full course of study of not less than two years at The Hartford School of Religious Pedagogy and have been graduated therefrom, and all persons who shall hereafter complete a full course of study in any school which may be conducted by this corporation, the length and character of which course for the purposes of this act shall be determined by the board of trustees, and all persons holding degrees from this corporation, whether honorary or in course, may, on the day next preceding the annual meeting of this corporation in each year, cast their votes by ballot under such rules, regulations, and restrictions as the board of trustees may prescribe, for one person to be chosen from such graduates to be

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a trustee of this corporation; and the person who shall be found to be elected by a plurality of the votes thus cast shall thereupon become a member of said board of trustees of this corporation for the term of three years from its next annual meeting. The members of the board of trustees present and voting at the annual meeting in each year shall elect by ballot not less than four nor more than eight persons to be trustees of this corporation, the number thus to be elected to be determined by said board in each year, and the persons who shall be elected by a plurality of the votes cast shall thereupon become members of said board of trustees for the term of three years from said annual meeting. If at any annual meeting of this corporation a certificate shall not have been received from The Pastoral Union of Connecticut certifying to the election of three trustees as hereinbefore provided, the members of said board of trustees present and voting may proceed to elect trustees for the term of three years to fill the places for which The Pastoral Union of Connecticut has not then elected trustees in addition to the election of the trustees regularly chosen by the board as hereinbefore provided. If at any such annual meeting of this corporation it shall be found that the graduates have not in that year elected a member of said board of trustees as hereinbefore provided, the members of said board of trustees present and voting may proceed to elect one trustee for the term of three years in addition to the election of the trustees regularly chosen by the board as hereinbefore provided. At any meeting of the board of trustees of this corporation the members present and voting may elect trustees to fill vacancies in the board however caused, the person so elected to hold office for the unexpired portion of the term for which the trustee was elected whose place has become vacant. All trustees shall hold office until the close of the annual meeting of the corporation in the year in which their term expires, and until their respective successors have been elected and have accepted their office.

SEC. 6. The board of trustees shall appoint the president of The Hartford Seminary Foundation, who shall be ex officio the president of each of its constituent schools, and shall also appoint a president of the board of trustees from their number. They shall also appoint one or more secretaries; also a treasurer, who

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shall give bond with surety for the faithful performance of his trust, unless the treasurer be a corporation exempt from this requirement; they may appoint also an assistant treasurer; all of which officers shall hold office during the pleasure of the board. The board shall also determine the location of the various schools maintained by it; shall appoint the professors and instructors of its various schools and shall appoint or provide for the appointment of all other officers, agents, and servants of the institution, all of whom shall hold office during the pleasure of the board. It shall also have power to adopt and amend by-laws for the regulation of the affairs of the corporation, by a two-thirds vote of the trustees present at any meeting duly held, provided the notice of such meeting shall set forth the terms of the proposed action with regard to the by-laws. It shall also have power to appoint standing committees and special committees and to prescribe their powers and duties; to constitute the faculties of the different schools and prescribe their duties and powers and the duties and powers of the respective members of such faculties; to make rules and regulations regarding the admission, government and conduct of the students; to regulate and prescribe courses of study or to delegate such power to the respective faculties of the various schools; and, upon recommendation of the respective faculties, to confer scholastic and honorary degrees appropriate to the objects of the corporation, which degrees shall entitle the recipients to all the immunities and privileges allowed by either law or usage to possessors of similar degrees or diplomas from any other university, college, seminary, or school; and to do all things necessary to the fulfillment of the purposes of this corporation.

SEC. 7. The annual meeting of the board of trustees, which shall be the annual meeting of the corporation, shall be held in Hartford on the last Tuesday of May in each year, provided if the last Tuesday be a legal holiday, such meeting may be held either on the day next preceding or on the day next following. The board in its by-laws may provide for other regular meetings. Special meetings of the board may be called at any time by the president of the board, and shall be called by him, or by the secretary, at the written request of any three members of the board. A majority of the board shall constitute a quorum for the transac-

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tion of business, but less than a majority shall have power to adjourn the meeting from time to time.

SEC. 8. Within the meaning of the statutes relating to taxation and exemptions therefrom, this corporation shall be held to be a college and its property shall be entitled to the same exemptions from taxation as are given to other colleges by sections 2315 and 2317 of the general statutes and amendments thereto.

SEC. 9. This act shall not take effect or become operative unless within six months after its passage it shall be accepted at a meeting of the board of trustees of The Hartford Theological Seminary and at a meeting of the board of trustees of The Hartford School of Religious Pedagogy, nor unless within said period an attested copy of such acceptance by each of such corporations shall be filed in the office of the secretary.

Approved, April 30, 1913.

[Substitute for Senate Bill No. 31.]

[118.]

AN ACT MAKING APPROPRIATIONS FOR THE NEW HAVEN COUNTY ANTI-TUBERCULOSIS ASSOCIATION AND THE HARTFORD HOSPITAL FOR THE TREATMENT OF PATIENTS SUFFERING FROM TUBERCULOSIS FOR THE TWO YEARS ENDING SEPTEMBER 30, 1915.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

The following sums are hereby appropriated to be paid out of any money in the treasury not otherwise appropriated, for the objects hereinafter specified for the two fiscal years ending September 30, 1915: For the New Haven county anti-tuberculosis association, for the treatment at Gaylord Farm of patients suffering from pulmonary tuberculosis, forty thousand dollars, to be expended at the rate of four dollars per week for each patient while actually receiving treatment from said association: For the Hartford Hospital, for the treatment at Wildwood sanatorium of patients suffering from pulmonary tuberculosis, twenty thousand dollars, to be expended at the rate of four dollars per

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week for each patient while actually receiving treatment from said hospital.

Approved, April 30, 1913.

[House Bill No. 204.]

[113.]

AN ACT AUTHORIZING THE CITY OF HARTFORD TO ISSUE BOULEVARD BONDS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. If the appropriation heretofore made by the court of common council of the city of Hartford, for the purpose of purchasing land and property now owned or controlled within said city by the Connecticut river bridge and highway district commission, including all rights in the Connecticut boulevard on the west side of the river, be ratified and approved at the annual city meeting of said city, to be held on the first Tuesday of April, 1913, or thereafter, said court of common council is hereby authorized to issue bonds, under the corporate name and seal of said city, bearing interest at a rate not greater than four and one-half per centum per annum, to an amount not exceeding in the aggregate five hundred thousand dollars. The principal of such bonds shall be payable at such time or times within fifty years from the date of issue as said court of common council may direct; and said court of common council may prescribe the amount for which said bonds may be issued, the term thereof, and the rate and time of payment of the interest, and whether said bonds shall be payable in gold coin or legal tender of the United States. Said bonds shall be denominated Connecticut Boulevard Bonds, and the avails thereof shall be applied only for the purchase of lands owned and controlled within the city of Hartford by the Connecticut river bridge and highway district commission, including all rights in the Connecticut river boulevard. Such lands, when so purchased, shall be free of all incumbrances. Said bonds, when issued and delivered, shall be obligatory upon said city and the inhabitants thereof according to the tenor and purport of the same.

Approved, April 30, 1913.

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[Substitute for Senate Bill No. 205.]
[98.]

AN ACT AMENDING THE CHARTER OF THE HARTFORD FIRE INSURANCE COMPANY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The Hartford Fire Insurance Company, incorporated by act passed May, 1810, is hereby authorized to increase its capital stock to an amount not exceeding in the aggregate the sum of ten million dollars, providing such stock shall not be issued at less than par and shall be paid for in cash.

SEC. 2. This act shall become operative as an amendment to the charter of The Hartford Fire Insurance Company if, within one year after its approval, it shall be accepted at a meeting of said corporation duly warned and held for that purpose and an attested copy of such acceptance filed in the office of the secretary of the state.

Approved, April 30, 1913.

[Substitute for House Bill No. 511.]
[126.]

AN ACT AMENDING THE CHARTER OF THE CITY OF HARTFORD.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. Nothing contained in the resolution amending the charter of the city of Hartford approved July 9, 1895, or in any other resolution or act affecting the power of the city of Hartford to lay or levy a tax upon certain land or property within its limits shall prevent said city from laying or levying a tax in excess of six mills on a dollar of its grand list, provided the proceeds of such excess taxes above said six mills levied upon property described in section fifteen of the resolution consolidating the governments of the city and town of Hartford, approved July 9, 1895, shall be expended or distributed by said city toward or for the support of public schools located within the limits of the city of Hartford.

SEC. 2. All proceedings at law for collecting within the town and city of Hartford a personal tax laid under chapter 260 of the public acts of 1909 as amended by chapter 295 of the public acts

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of 1911, may be brought to the city police court established and holden within and for said city.

Approved, May 7, 1913.

[Senate Bill No. 242.]
[138.]

AN ACT CONCERNING THE RATE OF INTEREST ON BONDS OF THE SECOND NORTH SCHOOL DISTRICT OF THE TOWN OF HARTFORD.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

The bonds or other obligations which may be issued by the second north school district of the town of Hartford under authority of a resolution authorizing the second north school district of the town of Hartford to issue bonds, approved March 18, 1903, may bear interest at a rate not greater than four and one-half per centum per annum, payable semi-annually.

Approved, May 7, 1913.

[House Bill No. 514.]
[140.]

AN ACT AUTHORIZING THE CITY OF HARTFORD TO ISSUE CONTAGIOUS HOSPITAL BONDS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The court of common council of the city of Hartford is hereby authorized to issue bonds under the corporate name and seal of said city, bearing interest at a rate not greater than four and one-half per centum per annum, to an amount not exceeding in the aggregate one hundred thousand dollars. The principal of such sums shall be payable at such time or times within fifty years from date of issuing same as said court of common council may direct, and said court of common council may prescribe the amount for which said bonds may be issued, the term thereof, the rate of interest and the time of payment of the interest which shall accrue thereon, and whether said bonds shall be payable in gold coin or legal tender of the United States. Said bonds shall be denominated Conta-

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gious Hospital Bonds of the City of Hartford, and the avails thereof shall be expended for the payment of the cost of procuring plans for a contagious hospital in the city of Hartford, securing bids for the erection of the same, and carrying out any duty laid upon the board of health commissioners of said city of Hartford in respect to establishing and equipping said hospital, and for no other purpose. Said bonds, when issued and delivered, shall be obligatory upon said city and the inhabitants thereof according to the tenor and purport of the same.

SEC. 2. The treasurer of said city of Hartford shall be trustee of the bonds hereby authorized, to hold and dispose of the same, subject to the directions of the court of common council.

Approved, May 7, 1913.

[House Bill No. 885.]
[161.]

AN ACT INCORPORATING THE HARTFORD ACCIDENT AND INDEMNITY COMPANY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. James J. Goodwin, Theodore Lyman, George Roberts, William C. Skinner, Meigs H. Whaples, Charles E. Chase, R. M. Bissell, and Henry S. Robinson, with such other persons as may hereafter be associated with them, their successors and assigns forever, are hereby created a body politic and corporate by the name of the Hartford Accident and Indemnity Company, with power under that name to sue and be sued; to plead and be impleaded in the courts of this state and elsewhere; to adopt a common seal and alter the same at pleasure; to purchase, acquire, and hold both real and personal property of every kind, and to sell, grant, alien, invest, use, and dispose of the same for the purposes of the corporation; to make such by-laws and regulations as may be deemed proper for the management of the affairs of the corporation, and from time to time to amend the same; and generally to do and cause to be done and executed all such acts as may seem necessary and proper within the limitations herein contained.

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SEC. 2. Said corporation may make insurance as follows: May insure any person against loss of life or bodily injury by reason of accident, and against loss by reason of disease; may insure any person or corporation against loss or damage on account of the bodily injury or death of any person or damage to the property of any person for which loss or damage the person or corporation insured may be responsible; may issue policies of insurance guaranteeing the fidelity of persons in positions of trust, public or private, and may guarantee the performance of contracts and other obligations and execute or guarantee bonds and undertakings required or permitted in all actions or proceedings at law or otherwise where bonds may be required; may insure persons or corporations against loss or damage by burglary, robbery, or theft; may insure persons or corporations against loss or damage to glass; may insure persons or corporations against loss or damage to goods or premises caused by water, including the loss or damage occasioned by the fall of any tank or other portion of an automatic sprinkler equipment, or arising from the breakage or leakage of sprinklers and water pipes, or otherwise; may issue policies of insurance upon elevators and against loss or damage to life or property resulting from their use; and upon steam boilers, pipes, engines, fly wheels, and machinery, and against explosions, collapse, ruptures, and other accidents resulting from their use and against loss or damage to persons or property resulting therefrom and sustained either by the insured or by others to whom the insured may be liable; and may make inspection of and issue certificates of inspection upon elevators, boilers, pipes, engines, fly wheels, and machinery; may insure persons or corporations against loss or damage to automobiles or other vehicles, including equipment and property thereon, resulting from accidents; and against any loss by legal liability for damage to person or property resulting from the ownership, maintenance, or use of automobiles or other vehicles, including collision of an automobile or other vehicle with an automobile or with any other vehicle or object; may insure persons or corporations against loss of use and occupancy, against loss of profits, and against any other consequential loss resulting from destruction of or damage to property by water, explosion, or

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other calamity; may insure persons or corporations against any other casualty or risk which may be the subject of accident, casualty, or liability insurance. Said corporation shall pay to any person or corporation insured by it any loss sustained within the subject-matter of and in accordance with the terms of the policies of insurance issued by said corporation, which policies of insurance, as well as all other contracts of the corporation may be made with or without its common seal, and shall be signed by the president or vice-president and by a secretary or an assistant secretary. Said corporation is hereby authorized to reinsure any and all risks taken under its charter in any company or companies empowered to write such reinsurance, and to write reinsurance upon like risks taken by any other company.

SEC. 3. The capital with which said corporation shall commence business shall be not less than five hundred thousand dollars and may, from time to time, be increased to any sum not exceeding in the whole two million dollars, and shall be divided into shares of the par value of one hundred dollars each. The shares of the capital stock shall be subscribed and paid for at such sum in cash per share, not less than par, as the incorporators shall prescribe, and the subscribers therefor shall, at the time of subscription, pay into the hands of the commissioners hereinafter named, for the use of the corporation, not less than ten per centum of the par value thereof. The balance due upon such subscription shall be paid to the corporation in such instalments and at such times as the directors shall demand, provided the entire capital stock, to the sum of not less than five hundred thousand dollars, shall be paid in before said corporation shall commence business.

SEC. 4. The principal office of the corporation shall be located in the city of Hartford, and the affairs of the corporation shall be managed by a board of not less than nine directors, who shall be chosen by ballot at each annual meeting of the stockholders and shall hold office for one year and until others are chosen in their stead. The first meeting of the subscribers shall be held at a time and place within the city of Hartford to be appointed for that purpose by the commissioners hereinafter named, and written notice of such meeting, stating the time and

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place thereof, shall be given by the commissioners to each subscriber in person or by mail at least five days before such meeting. At such meeting or at any adjournment thereof the subscribers to the capital stock may adopt such by-laws, rules, and regulations as may be deemed proper for the regulation of the affairs of the corporation, and shall elect by ballot not less than nine subscribers to serve as directors until the first annual meeting and until others are chosen in their stead.

SEC. 5. The annual meetings of the corporation, after the first meeting as aforesaid, shall be held at such time in each year and upon such notice as the by-laws shall prescribe. If the corporation shall fail to hold its annual meeting at the time specified for the same in any year, or shall fail to elect directors thereat, the corporation shall not be dissolved nor its rights impaired thereby, but a special meeting for that purpose shall be called by the president or by a majority of the directors of said corporation in case of his refusal or neglect so to do, and in case of the refusal of the president and of the directors to call such meeting, such special meeting may be called by the holders of one-tenth of the capital stock, upon the same notice as is required by the by-laws for calling an annual meeting, and at such meeting directors to fill the places of the directors whose terms of office shall have expired may be elected.

SEC. 6. The directors shall determine how many of their number, not less than three, shall constitute a quorum for the transaction of business, and may fill any vacancy which may occur in the board between the annual meetings of the stockholders, by choosing a director from the stockholders to act until the next annual meeting and until a successor shall be chosen.

SEC. 7. The directors shall choose a president, a vice-president, a treasurer, and one or more secretaries of the corporation and may appoint such other officers, clerks, and agents, and establish such agencies in this state and elsewhere as shall be by them deemed advisable for conducting the business of the corporation, prescribe the duties and fix the compensation of officers and employees, and take bonds of any of them for the faithful performance of his duty. The president shall be chosen from the directors and shall hold his appointment for one year and until

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his successor is chosen, but the other officers and employees of the corporation may be displaced and new ones appointed at the pleasure of the directors.

SEC. 8. The president shall have power at any time to call a special meeting of stockholders, upon such notice as the by-laws shall prescribe, and it shall be his duty to call such special meeting when requested in writing by the holders of at least one-tenth of the capital stock, and in case of his refusal or neglect to call a meeting on such request such stockholders may call the same.

SEC. 9. At all meetings of the stockholders all questions shall be determined by a majority vote of those present, allowing one vote to each share, and stockholders shall be entitled to vote in person or by proxies duly appointed.

SEC. 10. To carry out the purposes of this act and to organize said corporation Meigs H. Whaples, Chas. E. Chase, and R. M. Bissell are hereby appinted commissioners to open books of subscription and to receive subscriptions to the capital stock of said corporation, to receive the first instalment on such subscriptions, to close the subscription books when the capital stock shall have been subscribed to the full amount, not less than five hundred thousand dollars, with which the incorporators shall have determined to commence business, and, in event that the capital stock be over-subscribed, to apportion the same in their discretion among the subscribers. When the capital stock shall have been so subscribed, said commissioners shall call the first meeting of the subscribers as provided in section four of this act for the purposes therein set forth, and when the by-laws shall have been adopted and the directors chosen, and the board of directors so chosen shall have been organized by the choice of a president and a secretary, the commissioners shall pay over to the officers of the corporation all moneys received by them upon subscriptions to the capital stock, and said corporation shall thereupon be deemed to be fully organized.

SEC. 11. This charter shall be void unless said corporation shall be organized and a certificate of such organization shall be executed and filed according to law on or before January 1, 1915.

Approved, May 8, 1913.

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[House Bill No. 527.]
[151.]

AN ACT AUTHORIZING THE CITY OF HARTFORD TO ISSUE ADDITIONAL HIGH SCHOOL AND MUNICIPAL BUILDING BONDS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The court of common council of the city of Hartford is hereby authorized to issue bonds under the corporate name and seal of said city, bearing interest at a rate not greater than four and one-half per centum per annum, to an amount not exceeding six hundred and fifty thousand dollars. The principal of such sum shall be payable at such time or times within fifty years from the date of issuing same as said court of common council may direct. Said court of common council may prescribe the amount for which said bonds shall be issued, the term thereof, the rate of interest and the time of payment of the interest which shall accrue thereon, and whether said bonds shall be payable in gold coin or legal tender of the United States. Said bonds shall be denominated Additional High School Bonds of the City of Hartford, and the avails thereof shall be expended for the purchase of a site for a new high school building in the city of Hartford, the cost of procuring the plans of such building and securing bids for the erection of the same, the expense of carrying out any of the other duties laid upon the high school building commission of said city of Hartford, funding the principal sum of the temporary loans of said city, or reimbursing the city treasury for cash temporarily advanced for said purposes, or any of them, and for no other purpose. Said bonds, when issued and delivered, shall be obligatory upon said city and the inhabitants thereof according to the tenor and purport of the same.

SEC. 2. The court of common council of the city of Hartford is hereby authorized to issue bonds, under the corporate name and seal of said city, bearing interest at a rate not greater than four and one-half per centum per annum, to an amount not exceeding one million five hundred and seventy thousand dollars, the principal of which bonds shall be payable at such time or times, within fifty years from the date of issuing the same, as said court of

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common council may direct. Said court of common council may prescribe the amount for which said bonds shall be issued, the term thereof, the rate of interest and the time of payment of the interest which shall accrue thereon, and whether said bonds shall be payable in gold coin or legal tender of the United States. Said bonds shall be denominated Municipal Building Bonds, and the avails thereof shall be expended for the purchase of a site for a municipal building or buildings in the city of Hartford, the erection of such building or buildings, the expenses in connection therewith, and for funding the principal sum of the temporary loans to said city or reimbursing the city treasury for cash temporarily advanced for said purposes and for no other purpose; and said bonds, when issued and delivered, shall be obligatory upon said city and the inhabitants thereof according to the tenor and purport of the same.

SEC. 3. The treasurer of said city of Hartford shall be trustee of the bonds hereby authorized, to hold and dispose of the same, subject to the orders and directions of the court of common council.

SEC. 4. The resolutions authorizing the city of Hartford to issue bonds for the purchase of a site and the erection of a municipal building or buildings and also authorizing said city of Hartford to issue bonds for the purchase of a site for a new high school building, approved April 6, 1911, and August 2, 1911, are hereby repealed.

Approved, May 8, 1913.

[House Bill No. 519.]
[150.]

AN ACT AMENDING THE CHARTER OF THE CITY OF HARTFORD, RELATING TO THE MAKING OF VOTERS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The selectmen and town clerk of the town of Hartford shall hold a session to examine the qualifications of electors and admit to the elector's oath those who shall be found qualified, on Tuesday and Wednesday of the second week before

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the annual town meeting held in said town in 1913, and biennially thereafter, from nine o'clock in the forenoon until seven o'clock in the afternoon of each of said days, and said selectmen and town clerk may, if they desire, hold further sessions for such purposes on any other days in said second week before said annual town meetings. They shall not have power to admit to the elector's oath on said days any person whose name is not on the list "to be made," as provided in section 1614 of the general statutes, and such list, with the names added, shall be the registry list of said town. Notice of said meeting shall be given in the manner provided in section 1620 of the general statutes.

SEC. 2. All acts and parts of acts inconsistent herewith are hereby repealed.

Approved, May 8, 1913.

[House Bill No. 518.]
[149.]

AN ACT AMENDING THE CHARTER OF THE CITY OF HARTFORD, CONCERNING THE RIGHT OF EMINENT DOMAIN.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The city of Hartford may take any land which has been fixed upon as a site for a building or buildings or addition thereto for municipal purposes, including in such purposes a city hall, and fire engine, police, and bath houses, and such words of inclusion shall not be deemed a limitation upon the words "municipal purposes," and for necessary outbuildings and convenient accommodations for the same, and for light and air upon the same, upon paying to the owner just compensation.

SEC. 2. The proceedings for the condemnation of said land shall be those set forth in section 4110 of the general statutes relative to condemnation proceedings in behalf of a town for the purpose of acquiring a site or an addition to a site of a town house or hall, and for necessary outbuildings and convenient accommodations and light and air for the same.

Approved, May 8, 1913.

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[Senate Bill No. 397.]
[176.]

AN ACT AUTHORIZING THE SOUTHWEST SCHOOL DISTRICT OF HARTFORD TO ISSUE BONDS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The southwest school district of the town of Hartford is hereby authorized to issue its bonds to an amount not exceeding the sum of seventy-five thousand dollars, bearing interest at a rate not greater than four and one-half per centum per annum, payable semi-annually, the principal of such bonds to be payable at some certain time or times not later than thirty years from the date thereof. The proceeds of said bonds shall be expended for the purposes of said district.

SEC. 2. Said southwest school district, at a meeting specially warned and held for that purpose, or at its first annual meeting after the passage of this act, shall prescribe, subject to the foregoing limitations, the several and aggregate amounts of such bonds, the form, conditions, and reservations of the same, the rate of interest to be paid thereon, not exceeding the rate aforesaid, the times and places of paying said interest and principal, and the time and manner in which said bonds may be called in and redeemed, and interest thereon made to terminate, and the person or persons to execute the same on behalf of said district. Such bonds, when executed in the manner herein provided and issued by said district, shall be obligatory upon said district and upon the inhabitants thereof according to the tenor and purport of the same.

Approved, May 13, 1913.

[Senate Bill No. 508.]
[179.]

AN ACT AUTHORIZING THE NORTHEAST SCHOOL DISTRICT OF HARTFORD TO ISSUE BONDS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The northeast school district of the town of Hartford is hereby authorized to issue bonds, in addition to those

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already issued, to an amount not exceeding the sum of one hundred thousand dollars, bearing interest at a rate not greater than four and one-half per centum per annum, payable semi-annually, the principal of such bonds to be paid at some certain time or times not later than forty years from the date thereof, and the funds raised on said bonds shall be used and expended for the purposes of said district.

SEC. 2. Said northeast school district, within four months after the passage of this act, at a meeting called for that purpose, shall prescribe, subject to the foregoing limitations, the several and aggregate amounts of such bonds, the form, condition, and reservations of the same, the rate of interest to be paid thereon, the time and place of paying said interest and principal, and the time and manner in which said bonds may be called in and redeemed, and interest thereon made to terminate, and the person or persons who shall execute the same for and on behalf of said district. Such bonds, when so executed, issued, and delivered by said district, and by its officer or officers, agent or agents, duly appointed by said district, shall be obligatory upon said district and upon the inhabitants thereof according to the tenor and purport of the same.

Approved, May 13, 1913.

[Senate Bill No. 399.]
[174.]

AN ACT AMENDING THE CHARTER OF THE CITY OF HARTFORD CONCERNING SEWER ASSESSMENTS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

The board of street commissioners of the city of Hartford, in lieu of assessing the actual cost of any sewer upon the persons and property found by said board to be specially benefited thereby, may proceed as follows: Said board may, after proper consideration, determine and adopt a flat rate per lineal foot, for the construction of all sewers and house connections, with power to change and alter such rate from time to time. In assessing the

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cost of such sewers upon persons and property found to be specially benefited by reason of the construction thereof, said board shall assess the cost of the same on the basis of the flat rate cost per lineal foot, so determined and so adopted, multiplied by the actual length of frontage of land which any person so assessed owns or is interested in, and which said property abuts or fronts on the length of said sewer or to which it has access for sewerage facilities.

Approved, May 13, 1913.

[Senate Bill No. 251.]
[175.]

AN ACT AUTHORIZING THE BOARD OF WATER COMMISSIONERS OF THE CITY OF HARTFORD TO EXTEND WATER MAINS IN THE TOWN OF NEWINGTON.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

The board of water commissioners of the city of Hartford is hereby authorized to extend its water mains from the Hartford and Newington town line through such highways in the town of Newington and to such point in said town as may be agreed upon by said board of water commissioners and the selectmen of said town. Said board of water commissioners shall have control of said water main and of the connections thereof, and shall have the same rights and be subject to the same duties and obligations in respect thereto, and to the laying and repairing thereof, as though the same were within the limits of the city of Hartford. It shall be lawful for said board of water commissioners to supply water from such extended mains to the inhabitants of said town upon the same terms and conditions as water is supplied to the inhabitants of the city of Hartford at the time of the approval of this act.

Approved, May 13, 1913.

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[House Bill No. 516.]
[168.]

AN ACT AMENDING THE CHARTER OF THE CITY OF HARTFORD, CONCERNING SUNDAY RECREATION IN THE PARKS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

The city of Hartford, acting by its board of park commissioners, may provide free public concerts on Sundays in the public parks of the city and may sell or cause to be sold food and non-intoxicating drink on Sundays within and to be consumed only in said parks.

Approved, May 13, 1913.

[Senate Bill No. 254.]
[189.]

AN ACT AMENDING THE CHARTER OF THE CITY OF HARTFORD CONCERNING THE POWERS OF THE BOARD OF WATER COMMISSIONERS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section twenty-five of a resolution to alter the charter of the city of Hartford, and to combine sundry public statutes relating thereto, approved June 24, 1859, is hereby amended to read as follows: Said commissioners shall be empowered to make use of the ground or soil under any road, railroad, highway, street, private way, lane, or alley within this state, for the purpose of constructing the waterworks, but shall in all such cases cause the surface of such road, railroad, highway, street, private way, lane, or alley, to be restored to its usual condition and all damages done thereto to be repaired, and all damages sustained by any person or corporation, in consequence of the interruption of travel, to be paid to such person or corporation. It shall be the duty of the court of common council of said city to make ordinances, prescribing the duties of the board of water commissioners not expressly prescribed in the charter of said city, their powers over the water fund of the city of Hartford and duties relative thereto, the offi-

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cers of said board and their compensation, and bonds and oaths, and the powers of said board over the waterworks of said city, and the mode in which water rents, the cost of laying water pipes in streets or highways of said town, or taxes, shall be secured by lien on lots, houses, or tenements, or otherwise, or shall be collected, also relative to the number of said commissioners to constitute a quorum.

Approved, May 14, 1913.

[House Bill No. 517.]
[188.]

AN ACT CONCERNING THE BOARD OF SCHOOL VISITORS OF HARTFORD.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The board of school visitors of the town of Hartford may institute and operate at the expense of the city, vacation, invalid, and other schools in and for said city, provided said board of school visitors shall not expend for such purposes any sum or sums in excess of the appropriations therefor made annually by the court of common council.

SEC. 2. Said board of school visitors of the town of Hartford shall comply in all respects with the charter and ordinances of the city of Hartford in reference to its printing, its purchases, and its contracts. The board of school visitors of the town of Hartford is hereby declared to constitute a department of the city of Hartford within the scope of a resolution amending a resolution establishing a board of contract and supply in the city of Hartford, approved July 18, 1905.

Approved, May 14, 1913.

[House Bill No. 177.]
[193.]

AN ACT EXTENDING THE LIMITS OF THE CITY OF HARTFORD.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The territorial limits of the body politic and corporate, existing under the name of the City of Hartford, shall

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hereafter consist of the land and territory included in the present territorial limits, and in addition thereto, the land and territory hereinafter described: All that portion of the highway known as Prospect avenue, situated in the town of West Hartford, between the limits of the north line of Farmington avenue and the south line of Park street, and bounded by the present dividing line between said town of West Hartford and said city of Hartford, and a line parallel to and seventy feet westerly from said dividing line; and all the land included in said bounds is hereby annexed and added to the corporate territory of the city of Hartford, and shall be included for purposes of suffrage and for all other purposes in the tenth ward of said city.

SEC. 2. The court of common council of the city of Hartford shall have exclusive power to lay out, alter, and construct within the territory so added by this resolution, highways, streets, sidewalks, curbs, gutters, sewers, and crosswalks. The board of street commissioners of said city may cause to be sprinkled or watered said highways and may lay, with the approval of said court of common council, improved pavement thereon. Said court of common council may assess such part of the expense of such public work, including sprinkling and improved pavement, upon persons whose property is in the judgment of said court specially benefited thereby, whether such property is located in the city of Hartford or in the town of West Hartford, and shall estimate the proportion of such expense which said persons shall respectively defray and enforce the collection of the same, or may, if they deem proper, assess the expense of any such public work, including repairs and including sprinkling and improved pavement directly upon the land benefited thereby, describing said land in said assessment by metes and bounds and specifying the amount so assessed on each piece so described respectively. Said land, on default of payment of said assessment within six months after public notice thereof shall have been given shall be liable to be sold for the payment of the same.

SEC. 3. All ordinances or parts of ordinances now or hereafter passed by the city of Hartford, concerning assessment and notice of the cost of public works and improvements shall be applicable to the land added to the territorial limits of the city of

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Hartford by this act and to the land abutting thereon, although situated in West Hartford, to the same extent as if said land situated in West Hartford, and found by the court of common council to be benefited by the layout, construction, and repair of any public work or improvement, including sprinkling of and improved pavements on said Prospect avenue, were within the present corporate limits of the city of Hartford, and the provisions of the charter of the city of Hartford respecting appeals from assessment for municipal improvements shall apply to all owners of property situated in West Hartford, which property, under the provisions of this act, may be assessed for such improvements.

Approved, May 20, 1913.

[Substitute for House Bill No. 546.]
[281.]

AN ACT AUTHORIZING THE BOARD OF WATER COMMISSIONERS OF THE CITY OF HARTFORD TO MANUFACTURE, BUY, HOUSE, SELL AND HARVEST ICE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The board of water commissioners of the city of Hartford is hereby authorized to use any moneys within its control to manufacture, buy, house, and sell ice, and to harvest ice from any reservoir controlled by said board, provided such harvesting and the methods to be employed shall be approved by the state board of health, and provided the rules and regulations for the distribution and sale of ice by said board of water commissioners and the prices to be charged therefor shall be established by said board with the approval of the court of common council of said city.

SEC. 2. The word " water " in an act concerning a supply of water within the town of West Hartford, approved March 13, 1913, shall be construed to include ice.

Approved, June 4, 1913.

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[Substitute for House Bill No. 365.]
[381.]

AN ACT CHANGING THE TERRITORIAL LIMITS OF THE NORTHWEST SCHOOL DISTRICT OF THE TOWN OF HARTFORD.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. On and after July 15, 1915, the terrritorial limits of the northwest school district of the town of Hartford shall not include any land or property lying in the town of Bloomfield.

SEC. 2. For a period of two years from July 15, 1913, the town of Bloomfield shall pay to the northwest school district of the town of Hartford annually, the sum of twenty-five dollars per capita for all persons within school age living in the town of Bloomfield and within the present limits of the northwest school district, in full payment of all legal obligations of the town of Bloomfield to the support of the schools of the town of Hartford.

SEC. 3. After July 15, 1915, the town of Bloomfield shall provide educational facilities for all that portion of said town at present included within the territorial limits of the northwest school district of the town of Hartford and excluded from said district by this act in the same manner as said town of Bloomfield now provides educational facilities for the remainder of said town.

SEC. 4. All property of said northwest school district lying within the limits of the town of Hartford shall, after July 15, 1915, belong to said northwest school district, and said district shall assume and bear all obligations incurred by said district.

SEC. 5. This act shall take effect July 15, 1913.

Approved, June 5, 1913.

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[Senate Bill No. 253.]
[272.]

AN ACT CONCERNING THE EXTENSION OF WATER MAINS IN THE TOWN OF WETHERSFIELD BY THE BOARD OF WATER COMMISSIONERS OF THE CITY OF HARTFORD.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

The board of water commissioners of the city of Hartford is hereby authorized to extend its water mains from the Hartford and Wethersfield town line through such highways in the town of Wethersfield, outside the limits of the Wethersfield fire district, and to such point in said town outside said limits of said fire district as may be agreed upon by said board of water commissioners and the selectmen of said town. Said board of water commissioners shall have control of said water mains and the connections thereof, and shall have the same rights and be subject to the same duties and obligations in respect thereto and to the laying and repairing thereof as though the same were within the limits of the city of Hartford. It shall be lawful for said board of water commissioners to supply water from such extended mains to the inhabitants of said town upon the same terms and conditions as water is supplied to inhabitants of the city of Hartford at the time of the approval of this act.

Approved, June 3, 1913.

[Substitute for House Bill No. 528.]
[354.]

AN ACT AMENDING THE CHARTER OF THE CITY OF HARTFORD AND ABOLISHING THE BOARD OF COUNCILMEN OF SAID CITY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The board of councilmen of the city of Hartford is hereby abolished from the first Tuesday of April, 1915.

SEC. 2. All of the powers and duties heretofore vested or imposed by the charter of said city or any amendment thereto in or upon the court of common council of the city of Hartford, are

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hereby vested in and imposed upon a board of aldermen from the first Tuesday of April, 1915.

SEC. 3. Section two of an act to alter the charter of the city of Hartford and to combine sundry public statutes relating thereto, approved June 24, 1859, being section ten of the compiled charter of said city, is hereby amended to read as follows: At the annual meeting of the city of Hartford, to be holden on the first Tuesday of April, 1914, there shall be chosen by plurality vote in each of said ten wards from the electors entitled to vote therein, one alderman to hold office for two years, and at all subsequent city meetings, there shall be chosen in each of said ten wards, one alderman to hold office for two years and until his successor is chosen and qualified. In case of a tie vote the vacancy in the office of alderman shall be filled at an election to be held on the third secular day after said election for the special purpose of filling such vacancy. The aldermen of said city elected at the annual meeting held on the first Tuesday of April, 1913, shall be continued in office for the term of two years in accordance with the charter provision of said city regulating the annual city meeting at which they were elected.

SEC. 4. Section six of said act being section one hundred and sixty-two of the compiled charter of said city, is hereby amended to read as follows: There shall be a court of common council of said city which shall consist of one branch, to be known as a board of aldermen, in whom shall be vested the government, control, and management of said city, its property, and its affairs, subject to the exceptions otherwise set forth. The board of aldermen shall be composed of all the aldermen of said city, and shall be the final judge on the election returns and validity of elections and qualifications of its members. Neither the mayor nor any member of said board of aldermen shall be chosen or appointed to any other office by such court of common council.

SEC. 5. This amendment shall be submitted to the vote of the people of said city at the annual city meeting to be held on the first Tuesday of April, 1914, and legal warning in the call for said annual meeting shall be issued by the mayor of said city, submitting said amendment to a vote of the electors of said city, and if said amendment is approved by a majority of the electors voting

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thereon, said amendment shall be considered approved, and the term of office of the councilmen elected on the first Tuesday of April, 1914, shall expire on the first Tuesday of April, 1915. If said amendment is not approved by a majority of those voting thereon this amendment shall be void. The mayor of said city is hereby empowered to frame the proper question to be submitted to the people of said city and said question shall be so framed that when so submitted to the people it shall, when voted upon, obtain from the electors of said city an expression of opinion from said electors either for or against said amendment.

Approved, June 6, 1913.

[Substitute for House Bill No. 515.]
[343.]

AN ACT AMENDING THE CHARTER OF THE CITY OF HARTFORD CONCERNING STREET PAVING.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. The court of common council of the city of Hartford shall have power to cause the streets of said city to be paved and repaved with paving material other than the macadam in general use; and whenever the owners or proprietors of one-half of the land abutting upon any street or portion of street shall petition for such paving or repaving thereof, specifying in said petition the street or portion of street to be paved or repaved, and the city council shall have before it the action of the board of street commissioners approving and ordering a pavement of the kind it may deem proper, said city council shall have power to assess the whole cost of said paving or repaving, including that portion contiguous to lateral and intersecting streets, and excluding that portion of the street which, by law or contract, a street railway is under obligation to pave, one-third of such cost upon said city of Hartford, which shall be paid out of the treasury of said city upon the order of the city council, and two-thirds of such cost upon the owners of property and interests in property abutting on the line of such improvement, and shall have power to

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enforce the collection of such assessments in the manner provided by the charter or ordinances of said city for the collection of assessments. On the completion of the work and assessment for the cost of same, such assessment shall be conclusive on all parties in interest; and said assessment shall be a lien upon the land on account of which it was assessed, in the same manner and to the same extent as is provided in the charter of said city in the case of assessment for benefits arising from other public works and improvements.

SEC. 2. The city of Hartford may cause to be paved with granite, asphalt, or other substantial pavement, other than the macadam in general use, not exceeding one mile of highway in each year without petition therefor, in addition to the amount petitioned for by the property owners, and the board of street commissioners shall select the streets to be paved, and after notice to the property owners interested, by publication in the daily newspapers of the city, and, so far as practicable, by a written or printed notice addressed to the property owners interested at their last-known place of abode and deposited in the post office, postage paid, at least ten days before taking the action herein contemplated, may pass votes to be submitted to and approved by the city council ordering such pavement and assessing the aforesaid share of the expense upon the owners of abutting property and interests therein.

SEC. 3. All acts or resolutions in relation to the charter of the city of Hartford inconsistent herewith are hereby repealed.

Approved, June 6, 1913.

[Substitute for House Bill No. 507.]
[249.]

AN ACT AMENDING THE CHARTER OF THE CITY OF HARTFORD CONCERNING PUBLIC IMPROVEMENTS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. All requirements of law whereby the city of Hartford shall not have power to order to be made any new street, sewer, curb, gutter, sidewalk, or other public improvement of any

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kind, except upon the written application of not less than twenty-five real estate owners residing and owning land within the territorial limits of said city, are hereby repealed.

SEC. 2. In case of a tie vote in the election of an alderman or councilman in the city of Hartford, the vacancy in the office of alderman or councilman shall be filled at a new election to be held on the third secular day following the date of such tie vote and called for the special purpose of filling said vacancy.

SEC. 3. The court of common council may provide by ordinance for the construction and existence of ornamental projections, canopies, permanent awnings, and signs extending from the front of buildings, whether erected prior to or after the approval of this act, beyond any established building and street lines. Said ordinance or rules may provide license fees for the exercise of such privileges, and all such permits shall be revocable by said court of common council.

SEC. 4. The city of Hartford may make ordinances regulating the production or emission of smoke from any chimney, smoke-stack, or other source, within the limits of said city, prescribe penalties for violation of such ordinances, and provide for the enforcement thereof through inspectors or other officials.

SEC. 5. The court of common council of the city of Hartford is hereby authorized, by concurrent vote, to appropriate at its discretion, from time to time, sums of money for the purpose of defraying the expenses of public celebrations and receptions within said city, said sums not to exceed the amount of one thousand dollars for any such celebration or reception.

Approved, June 7, 1913.

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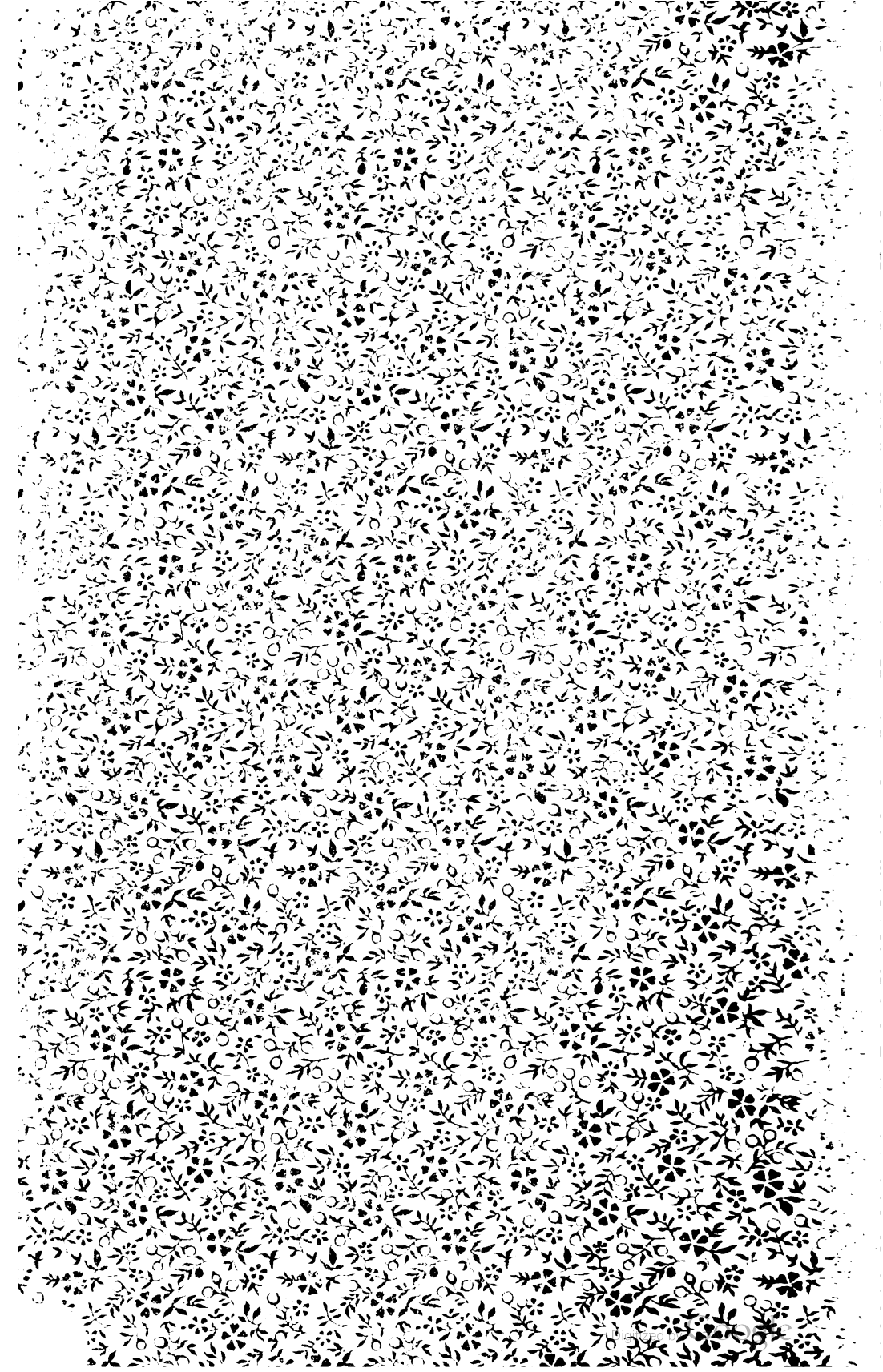

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